

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE.

George H. Evans, M. D.
Wallace I. Terry, M. D.

A. J. Lartigau, M. D.
F. M. Pottenger, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, - - - Butler Building,
State Journal, - - - - - San Francisco.
Official Register, - - - - -

Telephone Douglas 2537

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All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. VIII

APRIL, 1910.

No. 4

EDITORIAL NOTES.

The Committee on Arrangements for the coming meeting of the State Society—the Fortieth Annual Meeting—announce that their plans are practically completed. As already stated in the JOURNAL, the Hotel Sacramento is to be the headquarters and members should make their reservations as early as possible. Other good hotels are nearby, however, in case the Hotel Sacramento can not hold us all. On Tuesday afternoon, April 19th, Dr. James H. Parkinson, President of the Society, will entertain the visiting ladies at his residence, and on the same night a smoker and informal reception will be held on the roof garden of the Hotel Sacramento. Wednesday afternoon there will be an excursion to Fair Oaks and Orangevale, and on the same evening, after the session of the House of Delegates, there will be a reception at Elks' Hall. Thursday afternoon there will be an excursion on the river for the ladies, and on Thursday night a general reception at the Crocker Art Gallery, to be given by the Sacramento County Medical Society. The Hotel Sacramento has arranged a special rate of \$3.50 and \$4.00 per day on the American plan. The various sessions of the Society will be held in Elks' Hall, which is quite near to the hotel. The usual railroad rates of one and one-third fare for the round trip will prevail. Pay the full fare for the going ticket, and be sure to get a receipt certificate when you buy the ticket.

This must be signed by the Secretary at the meeting. When you return, present this to the ticket agent and the return ticket will be issued for one-third fare. But be sure you get your receipt certificate; if you fail to get it you can not secure the one-third return rate.

The desire to get "something for nothing," whether it be by playing the races, the stock market

SOMETHING FOR NOTHING.

or merely piling up the "unearned increment," is a fundamental characteristic of human nature. Deep as the pliocene and broad as earthly evolution from protoplasm to *genus homo*, is this inherent desire to get "something for nothing." Did you ever see anyone giving away anything of value absolutely for nothing (except in the case of charity), unless he expected to get back a little more than he gave? No; but on any street corner you can see someone who is either scheming or trying to get "something for nothing." All this is suggested by the attempt of the "Kaplan Medical Publishing Company" to quietly appropriate the Register and Directory which belongs to the State Society. The scheme was a clever one. This company (the incorporators appear to be Henry Kaplan, Dr. D. A. Hodghead and someone named Davis(?)), has said, in effect, to all the members of our Society: "We will publish this Register four times a year and combine with it masterly (?) reviews of all medical progress; and we will send it to you, four times a year, FREE!" How touchingly benevolent! This "company" is so philanthropic in its desires that it just cannot help giving away for nothing what it costs a good deal to produce. Why should it want to present you with "something for nothing?" Why? It is still more of a mystery when we remember that the offer to do this was made to the Society last April—and, by the House of Delegates, declined. And still these gentlemen are insistent in their philanthropy; they simply *must* give the members "something for nothing." Why? If you look at it in that light does it not seem to you to be, well, just a little bit queer? If either Mr. Henry Kaplan or Dr. D. A. Hodghead have heretofore been noted for their pure and heavenly philanthropy it has, in some unfortunate way, escaped our attention. This might be qualified in some measure in the case of Dr. Hodghead (if he is still connected with the Kaplan Medical Publishing Co.), for it is understood that he is and has been for some few years, actively interested in one of those "pay-a-dollar-a-month-and-we-treat-you-for-nothing" companies, where the subscriber gets just about as much medical treatment as he pays for and which claim to be formed for the high and lofty purpose of furnishing medical and surgical aid to the poor—not for revenue only; Heaven save the mark! Oh, no! Not at all! It is another form of the philanthropic spirit that will not down. It is again "something for nothing," but the trouble is to determine who gets the "something."

The explanation of this attempted calm appropriation of the Register and Directory by the Kaplan Medical Publishing Co., is a very simple one. Indeed, it is almost too simple when one really sees into it.

A FINE SCHEME.

It is not an easy matter to start a medical journal and quickly secure a large circulation, upon which advertising rates are based. If you were to start one to-morrow you would find that you would lose money for a long time before you had enough subscribers to make it an object for anyone to advertise in your publication; and you would find it very slow work to get subscribers in a territory already supplied with several medical journals. But suppose you could, in some way, put into your medical (?) journal something that would make a demand for it; that would make a few thousand physicians require it? If that were the case and you could make a demand for it by say 2,000 physicians, you could afford to give it to them for nothing—for a year or so—knowing full well that eventually you would get your money back from the advertising, and that you could, when you had established the demand, charge a subscription price for your publication instead of giving it away. It is never safe to predicate exactly what other peoples' motives may or may not be, and we are not sure that this was the motive or the intention of the Kaplan Medical Publishing Company. But, it is certain that, by including the register and directory as a part of a quarterly medical publication, an instant demand was secured for that publication. To how many members would the "Practitioner's Digest" be of any value if it were not for the inclusion of the register and directory? And how long do you suppose it would continue to be sent to you "free"? Just think these things over; and remember that it is very nice to get "something for nothing"; nice for the fellow who does the "getting."

The Council of the State Society was not in any way a party to this appropriation of the Register and

HOW IT HAS HAPPENED.

Directory by Mr. Henry Kaplan or the Kaplan Medical Publishing Company. Quite the contrary. In 1906, after the fire, a verbal contract was made with Kaplan allowing him to issue the Register at his own risk and to get what he could out of the advertising which was to be subject to the approval of the Publication Committee. In 1907 a written contract, drawn up by our attorney, was entered into between the Society (through the Council) and Henry Kaplan, which was practically the same as the verbal contract; we were to furnish the information, changes, correct the proof, etc., and he was to furnish us with enough copies for our members and to get what he could out of the advertising. This contract was renewed in writing in 1908 and again, and *after the proposition to print the register as part of a quarterly medical publication had been rejected by the House of Delegates of the State Society*, in 1909. In passing, it may be said that prior to 1906, the Society pub-

lished the book, paying Mr. Kaplan the liberal commission of 33 1-3% on the advertisements secured; the book was thus always published at a loss to the Society. Mr. Kaplan had been identified with the work of securing advertisements for the Society's publications for some years and doubtless there is, in the minds of many people, an impression that he is still connected in some way with the Society. We do not know that any representations were made to the effect that the "Practitioners' Digest" (including the Register and Directory) was endorsed by the Society or that the Society had anything to do with it. But the fact remains that a very large number of people seem to be of the opinion that the publication in question is endorsed by, or approved by the State Society. This could not be the case, for the Society had already, by a vote of the House of Delegates, rejected the proposition absolutely. It was thought to be unwise to aid in starting a privately-owned medical journal over which the Society would have neither advertising nor editorial control. It was tantamount to giving away, for nothing, the property of the Society. And so the matter stands. Mr. Kaplan has clearly violated his contract with the Society, has told the House of Delegates most impudently that he will pay no attention to the wishes of the Society and that he will do what he pleases with the property of the Society. Consequently, the Council has ordered suit against Mr. Kaplan for these various reasons. Those members of the Society who are in any way helping Mr. Kaplan, either by sending in changes of address, writing for his publication or otherwise, are merely aiding him to take away from themselves some of their own property and to build up, through the false semi-connection with the State Society, a privately-owned medical (?) publication which might, in time, be as bad in the matter of its advertised fakes as most of the other privately-owned medical (?) journals are at the present time. But it is up to the members of the Society to determine whether they shall give away their property or keep it in their own hands.

Probably a considerable majority of voters, especially in the larger centers of population, are either poor or of but moderate means; comparatively few could be truthfully called wealthy. And

THE POOR SUFFER.

yet, singularly enough, the majority seems to fail consistently and persistently to guard its own interests. The man of wealth can build his house in the healthiest and most desirable section; he can so plan it as to get the maximum of sunshine and fresh air; he can provide for himself and for his family every littlest thing that makes for the maintenance of health. All this the more-than-average voter cannot do. The tuberculous is generally of the poorer class, especially in cities, and he is the victim of insanitary surroundings, improper living quarters, insufficient sunshine and fresh air—and of his own ignorance and indolence in the matter of taking advantage of his might, the majority vote. Several years ago this JOURNAL devoted con-

siderable space to the argument that, in San Francisco, the labor unions were in control of the situation and that it would be the part of wisdom for them to provide for themselves in the matter of unexcelled hospital facilities; and yet it was a struggle to get even tolerance when the effort was made to secure funds for a proper City and County Hospital. The very class then (and now) in control of the city government of San Francisco is the class that suffers most from the privations which follow upon illness. When the laborer falls sick he must needs, almost always, promptly go into debt, for at best he has small chance to save up much money. The wealthy man can pay for any hospital luxuries that he chooses; but the poor man, the majority voter, must soon, if his illness lasts any length of time or is such as to call for hospital treatment, be sent to the city or county institution to be cared for at the public expense. This same singular apathy has very recently been noticed in San Francisco, where the element in control—the labor unions—fails to see the wisdom of guarding their own interests. Ordinances were passed some time ago, compelling the landlord to furnish a minimum amount of light and air when building his tenements. Quite recently a strong effort has been made to alter these building ordinances so as to permit the landlord to cut down this allotment of light and air and thus get a little more money from his land—at the expense of the health of the poor. In spite of protests from sanitarians, the Board of Health, prominent architects, charitable organizations, etc., it rather appears, at the present writing, as though a labor union Board of Supervisors and a labor union Mayor would voluntarily and stupidly give away a large portion of their present right to air, sun and health. It is, indeed, a queer world.

MEDICINE'S LITERARY JUNGLE.

In a recent article in the *Journal of the American Medical Association* Dr. Edward Jackson, of Denver, views with dismay the ever extending circle of medical literature but does not prescribe a remedy. The physician, with periodicals heaped upon his office table and very limited leisure, selects articles whose titles appeal to him or those whose authors he holds in high esteem. A very few are to be read with the greatest care; sometimes more than once. A limited number embody the results of experimentation and their value is usually in inverse ratio to their length. Others, stilted in style and verbose in expression, have been written for some "occasion"; not because the writer has any message to deliver but because he or someone else believes that he should be heard. This class contributes largely to the journalistic mire in which we all flounder. We grasp eagerly the article which collates a series of cases and look for the deductions which the author draws from them. But here we are sometimes disappointed. The writer may be a famous specialist, more concerned with impressing upon the reader the number of operations

which he has done in this particular field, or the many patients with the same group of symptoms who have come under his eye, than in imparting valuable information.

S. Weir Mitchell has said that there are very few individual case histories which merit printing and yet there is no doubt that much valuable material is lost by practitioners neglecting to publish extraordinary conditions. In a recent talk with the Librarian of the Surgeon-General's Library at Washington the writer was informed that case reports, no matter how obscure the journal in which they appear, are always catalogued with great care. The magnitude of this task can be appreciated from his statement that one volume of the great catalogue will be necessary to cover the titles of articles on Tuberculosis published since 1893. It must be affirmed, however, that the recounting of the "case" is of generally greater interest to the narrator than to his audience.

The article which embodies a critical review of our knowledge of a subject and then adds a little more is of distinct value. It places within our grasp a series of facts which may possibly have been gathered only after long and diligent reading and observation, while these facts form an illuminating setting for the grains of truth which the writer presents as his offering to the healing art.

The subdued reaction which has taken place against clinical articles has led to many absurd publications from laboratory men. You read rather languidly some forty pages of text in which the author endeavors to perfect himself in a particular technic in experimental surgery. This is of no importance to you but of the greatest import to the author. After narrating possibly fifty experiments in detail he arrives at conclusions which could have been expressed in a single well-worded paragraph. A man may labor assiduously in experimental work for months and yet have nothing new to impart. Those who have thus toiled know that laboratory life is also made up of the little things, but why the reader should be regaled with them it is difficult to understand. Here are a few choice bits taken at random from authors who cover pages of expensive broad-margin paper with such drivel:

"July 1. Dog wags tail to-day." (Exhibiting author's acumen.)

"Sept. — Entered recovery room to see dog take last three breaths." (Note the accuracy of this statement.)

"Aug. 6. Dog growls when approached so I could not make usual observations."

"The black and white mongrel (No. 36) was killed in a dog fight on the roof."

There are touches of pathos about this work that have a strong altruistic, though a doubtful scientific, value.

The man who has taken advantage of his clinical experiences, who has thought and studied over the questions to which they give rise and has added to his particular knowledge by extensive reading, is always worthy of a hearing, whether he be a Uni-

versity professor or an obscure country practitioner. It was in the then little town of Montgomery, Alabama, that J. Marion Sims laid the foundations of gynecology. True it is that the circle of medical contributions is ever widening but we could materially decrease its circumference with decided advantage. Then it might be possible for one individual to see in all directions as far as the horizon, providing his viewpoint were sufficiently elevated.

This is just to remind you that we have, in the office, a department of exchanges and locations which is entirely at your service; at the time of writing there are a number of excellent openings for young and energetic physicians. There are also frequent demands for internships and partnerships, some of them being very attractive. If you are thinking about changing your location, write to the office of the Society and tell us about what you want and about what you will leave when you make a change. Also, if you want an assistant, or know of a hospital opening, or anything of that sort, let us know. This is just a regular part of the work of the Society and we are only too glad to be of any aid in these matters. Almost every month, too, there are advertisements of locations or equipment for sale, and if you contemplate a change it will pay you to look through the JOURNAL carefully every month.

COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, Oakland.

Journals of Tropical Medicine.

The writer has not infrequently been questioned regarding current literature on tropical medicine. There are numerous periodicals partially or entirely devoted to the subject. Among journals published in English the *Journal of Tropical Medicine and Hygiene* (London), the *Annals of Tropical Medicine and Parasitology* (Liverpool), and the *Philippine Journal of Science* may be mentioned. The French *Revue de la Médecine et d'Hygiène* and the German *Archiv für Schiffs- und Tropenhygiene* are both of interest. Valuable contributions also appear in the French and Italian journals of colonial, naval and military medicine and in the health reports of most tropical colonies. Much admirable tropical material may be found in the reports of various research institutions, such as the Wellcome Laboratories at Khartum, several government laboratories in India and the Research Laboratories at Kuala Lumpur in the Federated Malay States. An excellent review of most of the literature of tropical microbiology may always be found in the *Bulletin de l'Institut Pasteur* (Paris). The writer will be glad to answer any questions in his power concerning the bibliography of tropical disease.

Gangosa.

We have recently had the privilege of seeing this terribly mutilating disease through the courtesy of Dr. Simons, Medical Director of the Naval Station at Vallejo. Dr. Geiger of the Naval Hospital has done some remarkable and interesting work on the etiology and treatment of the affection, and further investigations are planned. On the completion of these investigations definite conclusions will be published.

Sleeping Sickness.

The sensational predictions in the daily press regarding the probable infection of Mr. Roosevelt and his party with trypanosomiasis have focused popular interest on this disease. The last bulletin of the London Sleeping Sickness Bureau for February lies before us full of the most recent findings regarding the scourge. It seems to be rapidly advancing northward from the French Congo. The efforts in northeastern Rhodesia to remove natives from sleeping sickness areas to sanitary camps outside of the fly belts is meeting with considerable resistance from the natives themselves, and is evidently less effective in practice than the scheme appears on paper. Commissions for the study of the disease, headed by Drs. Kinghorn and Rodain, are now working on the Gold Coast and on the headwaters of the Congo, respectively. Among the most interesting of the recent discoveries regarding the fly which spreads sleeping sickness is that the form of *Glossina palpalis* described by Austen as *wellmani* is not only the southern representative of the sleeping sickness tsetse, as was at first thought, but that this type is found also at the extreme northern and eastern limits of the fly area. In other words, the sleeping sickness fly (*palpalis*) "at the periphery of its area of distribution tends to become atypical and to assume the form known as *wellmani*."

Dr. Gunn's Lecture on Tropical Disease.

On the evening of February 14th, Dr. Herbert Gunn addressed the physicians of Oakland on the subject of the Tropical Intestinal Fluxes found in California. The lecturer passed in review the diseases observed by him in this State which give rise at some time in their course to the symptom of intestinal flux. Some of the diseases mentioned were Cochin China diarrhea, connected with the presence of a nematode worm (*Strongyloides intestinalis*) in the feces, hookworm disease, infection with the infusorian *Balantidium coli*, chylous diarrhea due to filariasis, infection with the flukes *Clonorchis sinensis*, *Paragonimus westermani*, *Schistosomum mansoni* and *S. japonicum*, sprue and intestinal amebiasis. The address, besides being significant as an index of the large amount of tropical disease among us, constituted a fitting text for a sermon on the need for routine microscopical examination of the feces in all intestinal disorders.

A Tropical Medical Club.

It has been suggested to the writer that a club for the study of tropical disease would be useful here in California. We should be glad to hear further from any who may be interested in such an organization.

PRELIMINARY PROGRAM AND NOTICE of the FORTIETH ANNUAL MEETING OF THE STATE SOCIETY, SACRAMENTO.

APRIL 19TH, 20TH and 21ST, 1910.

Headquarters, Hotel Sacramento. Sessions, at Elks' Building. Public Health Association and kindred bodies meet on Monday, the 18th.

Railroad rates as usual, one and one-third fare for the round trip. Pay full fare for the ticket going to the meeting and be sure and get a receipt certificate from the agent at the time you buy your ticket. This must be signed by the Secretary, Dr. Philip Mills Jones, at the time of the meeting. When you present this to the agent at Sacramento, a return ticket will be sold to you at one-third the regular fare. This applies to all railroads.

FIRST DAY.

Morning Session.

1. Addresses of Welcome.
Hon. M. R. Beard, Mayor of Sacramento.
Hon. J. N. Gillett, Governor of California.
Dr. G. W. Dufficy, Sacramento County Medical Society.
Dr. A. M. Henderson, Chairman Arrangements Committee.
2. President's Address.
Dr. J. H. Parkinson (Sacramento).
3. Report on Public Policy and Legislation.
Dr. O. D. Hamlin (Oakland).
4. Report of the Committee on Medical Education. (The Present Status of Medical Education.)
Dr. Thos. W. Huntington (San Francisco).
5. A Brief History of Medical Education in California.
Dr. Emmet Rixford (San Francisco).
6. The Present Status of Preliminary Medical Education.
Dr. W. Jarvis Barlow (Los Angeles).
7. Report of the Board of Medical Examiners.
Dr. R. F. Burnham (San Diego).
8. Report of the Committee on Public Health.
Dr. F. C. E. Mattison (Pasadena).
9. Report of Committee on Cancer.
Dr. W. F. B. Wakefield (San Francisco).
10. Report of Committee on Venereal Peril.
Dr. A. B. Grosse (San Francisco).
11. The Doctor as the "Middle Man."
Dr. W. F. Snow (Sacramento).
12. The Making of a Health Officer.
Dr. Colby Rucker (Assistant Surgeon, U. S. P. H. & M. H. S.).
13. A Plea for a State Institution for the Treatment of the Chronic Alcoholic and Drug Habitue.
Dr. R. E. Bering (San Francisco).

Afternoon Session.

2:00 P. M.

Sessions of the Eye, Ear, Nose and Throat Section and the Genito-Urinary Section occur at the same hour.

The Genito-Urinary Section.

14. Rectal Tuberculosis.
Dr. Geo. S. Whiteside (Portland).
15. A Case of Acute Septic Inflammation of the Penis following Stricture, with remarks upon the general treatment of such cases.
Dr. Granville MacGowan (Los Angeles).
16. Symposium on the Prostate.
1—Acute and Chronic Prostatitis.
Dr. Victor Veckki (San Francisco).
- 2—Hypertrophy.
(a) Causes and Diagnosis.
Dr. M. Krotoszyner (San Francisco).
- (b) Treatment (non-operative).
Dr. E. G. McConnell (San Francisco).
- (c) Treatment (operative).
Dr. G. S. Peterkin (Seattle).

Discussion opened by Dr. J. C. Spencer (San Francisco).

Authors are requested to select the openers of the discussion on their individual papers. All papers will be strictly limited to fifteen minutes.

Eye, Ear, Nose and Throat Section.

17. Glaucoma.
(a) A brief discussion as to the cause, and the relief of tension by sub-conjunctival injection of sodium citrate solutions.
Dr. Hayward G. Thomas (Oakland).
- (b) Its Experimental Production.
Dr. Walter Scott Franklin (San Francisco).
18. A Method for Determining the Source of Pus in Diseases of the Accessory Cavities of the Nose.
Dr. Henry Horn (San Francisco).
19. The Differential Diagnosis of Labyrinthine Affections.
Dr. G. P. Wintermute (San Francisco).
20. A Report of Mastoid Cases, with Special Reference to Diagnosis.
Dr. M. Stephens.
21. Lantern Slide Demonstrations of Diseased Conditions of Ear, Nose and Throat.
Dr. Cullen I. Welty (San Francisco).
22. The Enucleation of the Tonsil from the Standpoint of the General Medical Man.
Dr. Langley Porter (San Francisco).
23. Pathological Histology of Tonsils.
Dr. Hill Hastings (Los Angeles).
24. The Enucleation of the Tonsil, a Surgical, not a Radical Procedure.
Dr. Albert J. Houston (San Francisco).

SECOND DAY.

Morning Session.

25. The Relation of Our Tropical Possessions to California.
Major P. M. Ashburn, U. S. A.
26. Pellagra, with Demonstration of Case.
Dr. W. A. Clarke (San Leandro).
27. Hook Worm, with slide demonstrations.
Dr. Creighton Wellman (Oakland).
28. Amebiasis in California.
Dr. Herbert Gunn (San Francisco).
29. Rabies.
Dr. Stanley Black and Dr. L. M. Power (Los Angeles).
30. A Case of Filariasis Treated by the Wherry-McDill Method.
Dr. Edward von Adelung (Oakland).
31. Some Aspects of the Squirrel Plague Question.
G. M. McCoy, P. A. Surgeon, U. S. P. H. & M. H. S.
32. A Lantern Slide Demonstration of Skin Manifestations.
Dr. Howard Morrow (San Francisco).
33. Urticaria.
Dr. Ernest D. Chipman (San Francisco).
34. Skin Eruptions Induced by Various Means.
Dr. Harry E. Alderson (San Francisco).
35. Some Points on the Etiology and Treatment of Enuresis.
Dr. E. C. Fleischner (San Francisco).
36. Speech Disturbances and their Treatment from the Present Standpoint.
Dr. Henry Horn (San Francisco).

37. Report on a Case of Adhesive Mediastinal Pericarditis.

Dr. G. A. Hare (Fresno).

THIRD DAY.

Morning Session.

38. Symposium on Thoracic Surgery.
(a) The Question of Differential Pressure.
Dr. F. Dudley Tait and Dr. Raymond Russ (San Francisco).
(b) Surgery of the Lungs.
Dr. A. S. Lobingier (Los Angeles).
(c) Operations for Empyema.
Dr. ———
(d) The Future of Heart Surgery.
Dr. Harry M. Sherman (San Francisco).
Discussion opened by Dr. S. H. Buteau (Oakland).
39. Symposium on Nephritis.
(a) Hematuria as an Initial Symptom of Nephritis.
Dr. R. L. Rigdon (San Francisco).
(b) Surgery of Nephritis.
Dr. Stanley Stillman (San Francisco).
(c) The Dietetic Treatment of Nephritis.
Dr. Rene Bine (San Francisco).
(d) Nephritis of Bacterial Origin.
Dr. J. J. Hogan (Vallejo).
(e) Experimental Nephritis.
Dr. E. C. Dickson (San Francisco).
40. Value of Rectal Examinations.
(a) Value in Gynecology.
(b) In Pediatrics.
(c) In General Medicine.
(d) In Genito-Urinary Work.
(e) In Surgical Conditions.
(f) In Examination of.
Dr. A. J. Zobel (San Francisco).
41. Presentation of a Case of Injury to the Spinal Cord, Surgery and Recovery.
Dr. C. D. Strong (San Bernardino).
42. Uretero-Cystostomy.
Dr. Geo. B. Somers (San Francisco).
43. Experimental Surgery of the Hypophysis.
Dr. H. E. Castle (San Francisco).
44. Surgery of the Human Hypophysis.
Dr. H. A. L. Ryfkogel (San Francisco).
45. Hyperchlorhydria.
Dr. Wm. Fitch Cheney (San Francisco).
46. The Treatment of Chronic Gastric Ulcer.
Dr. Geo. E. Ebricht (San Francisco).

47. The Action and Indication of the Different Diuretics.

Dr. E. Schmoll (San Francisco).

Afternoon Session.

48. Pain as a Symptom in Secondary Syphilis.
Dr. E. W. Twitchell (Sacramento).
49. The Serum Diagnosis of Syphilis.
Dr. L. S. Schmitt (San Francisco).
50. Report on the Work of One Year with Wasserman Reaction.
Dr. H. R. Oliver (San Francisco).
51. A Preliminary Report on the Diagnostic Value of the Intracutaneous Tuberculin Test.
Dr. Geo. H. Evans and Dr. Jas. L. Whitney (San Francisco).
52. Results of Sanatorium Treatment and Tuberculin in Tuberculosis.
Dr. Max Rothschild (San Francisco).
53. Bovine Tuberculin in the Treatment of Pulmonary Tuberculosis.
Dr. W. C. Voorsanger (San Francisco).
54. Tuberculous Ulceration of the Rectum.
Dr. W. H. Kiger (Los Angeles).
55. The Value of Rest in Treatment of Tuberculosis.
Dr. Robert Peers (Colfax).
56. Demonstration of Muscle Rigidity as a Sign of Disease within the Chest. A method of outlining organs by light touch palpation.
Dr. F. M. Pottenger (Monrovia).
57. Thoughts on Tuberculosis, its Communicability and Prevention.
Dr. W. S. Watson (Sacramento).

MEETING OF THE CERTIFIED MILK COMMISSIONS OF CALIFORNIA, AT UNIVERSITY FARM, DAVIS, CALIFORNIA, 2 P. M., APRIL 18, 1910.

Papers and reports will be read by members of the commissions dealing with various phases of the production and distribution of certified milk.

Autopsies on tuberculous cows, and the technique of the tuberculin test will be shown by Professors Ward and Haring of the University of California.

All physicians interested in the subject are cordially invited to attend the meeting.

L. S. MACE,

Chairman Committee of Arrangements, Schroth Building, San Francisco.

ORIGINAL ARTICLES

A NEW VOCATION DERMATOSIS.

(Dermatitis Due to Dry Fulminate of Mercury)

By HARRY E. ALDERSON, M. D., San Francisco.

Recent improvements (made by a local cap company) in the process of manufacture of blasting caps, involving the use of the dry fulminate of mercury, have been so successful that the method will be more generally used. In view of the fact that several of the men working with this substance have developed severe dermatitis, the following record is of interest:

E. —, Age 28. One of his duties at a local powder works is to prepare the dry fulminate of mercury for the blasting caps. This substance is made by dissolving metallic mercury in nitric acid and precipitating with alcohol. The patient is in excellent health and has always been so. Several years ago he had dermatitis venenata due to poison oak, from which he made a rapid recovery.

He presents an acute erythematous-papular eruption of the face, neck, post-aural region and the entire surface of both forearms (the hands, having rather tough, thick skin, are spared). The eyelids are very acutely inflamed and there is a violent conjunctivitis. Wherever the skin is thin and delicate the eruption is the most severe. On the bearded portion of the

face there is a pustular folliculitis. On the forearms the eruption is papulo-pustular. The attack had lasted two weeks before the patient called for treatment.

This dermatitis usually appears in men doing this work a very short while after exposure to the chemical and it rapidly increases in severity. New papules may appear daily for some time after the onset of the inflammation. When warm and perspiring, the skin seems to be particularly susceptible to the irritating effects of the chemical.

Soothing treatment was effective in subduing the dermatitis in a week, but it promptly reappeared when the patient resumed his duties with the fulminate of mercury. Various salves were tried for protection, but they were only partly successful. Finally the following combination was found to be most efficacious:

R Sodii Carbonatis 3i

Aquae Dest. q. s. sat. soln.

Lanolini Anhydrosi q. s. ad. 3ii

M. Sig. Smear thoroughly over exposed parts before going in fulminate room.

Heretofore several men have been compelled to leave the service of the company on account of this dermatitis. Since using this prophylactic salve the employees handle the dry fulminate of mercury with impunity.

CONGENITAL DEFECTS OF THE MUSCLES OF THE FACE AND EYES. INFANTILE KERNSCHWUND OF MOEBIUS. REPORT OF THREE CASES.*

By MILTON B. LENNON, M. D., San Francisco.

Since the literature of the past thirty years contains less than fifty instances of congenital oculo-facial defect, it is the duty of one who has observed and studied three examples of this condition to record them.

Joseph F., two years of age, was brought to the polyclinic in July, 1908. The family history is negative. Joseph was born at full term after an easy labor. The attendant immediately noticed that the child's eyes were open and were turned inward. When he cried no movement of his face was discerned. He could not suck with his lips. He had club feet.

Examination. Joseph is an intelligent child with



Joseph F.

Patient No. 1.

an immobile face and a mouth that is never completely closed. His eyes are turned sharply inward and movement in any direction is slight. When asleep his eyes are open. They react to light. The discs are normal. Hearing is excellent. The tongue is projected in the median line and may be moved in all directions. The uvula and soft palate are normal. There is a marked diastasis of the recti muscles. The child has club feet. The facial nerves and the muscles of the face show no reaction to the faradic or galvanic current. There are no other abnormal findings.

Frank H., age 14, was brought to the San Francisco Polyclinic in March, 1909. A cousin, a girl of 17 years of age, has a hypoplasia of the right arm and hand. Frank was born after a dry non-instrumental labor which lasted a week. Following his

* Read before the California Academy of Medicine. From the Department of Neurology, San Francisco Polyclinic.



Joseph F.

Patient No. 1.

birth he had a convulsion but has had none since. It was noticed that his eyes were turned inward and they have remained so. It was further noted that when he slept his eyes were open. There was always some movement about his mouth and this



Frank H., smiling.

Patient No. 2.

movement seems more extensive now than it was in infancy. He too was born with club feet which have been rectified by Dr. Hunkin.

Examination. A boy of fair intelligence and size, with eyes that are turned sharply inward. Movement of the eyes either upward or downward or outward is very limited. Objects are brought into his range of vision by his moving his head. He has a fairly marked naso labial fold on the right and a less marked one on the left. When told to close his eyes, there is a partial closure, the right eye being more nearly closed than the left. When told to smile or when he smiles spontaneously, he makes a peculiar and well marked grimace on the left and a somewhat different and lesser movement on the right. The tongue, uvula and soft palate are normal. Taste is unimpaired. The eyes react to light and distance. The discs are normal. There are no changes in the general reflexes or in sensation. Electrical excitation of the muscles and nerves causes a prompt reaction of those muscles which the patient voluntarily contracted while his picture was being taken. The right orbicularis oculi muscle shows a prompt, though partial, reaction to a fairly strong current. It is plain that many of its fibres are absent. There is no reaction in the left orbicularis oculi. There are no qualitative changes in the reaction of any of the muscles.

The third patient, a girl of 12 years of age, was referred to me in April, 1907. The family history is negative. Birth was easy. Following delivery it was noted that the left eye was open and covered with a film, beneath which it was discerned that the eye was turned inward. It required constant treatment for six months to remove the "film." When the child cried the left side of the face did not move, when she slept the left eye remained open. Since the child has grown older, there is an almost complete closure of the eye during sleep. The left ear was smaller, of different shape, and stuck out more than the right ear. As the child grew older the left ear grew faster than the right and now is of the same general size. When the hair grew thickly upon the head, the left hair line was considerably higher than the right.

Examination. A girl tall and intelligent for her years. When her face is in repose there is noted a turning in of the left eye, a slight atrophy of the left side of the face and an eversion of the left lower lip. The left external ear is deformed. The left hair line is higher than on the right and the left supraorbital ridge smaller than on the right. There is no drawing of the face to either side. No tendency to contracture. When told to smile the right side moves fully; the left side, except for the barest intimation of movement at the left chin is immobile. When told to close the eyes there is an incomplete closure of the left eye. It is noted that when the child is asked to look to the left the left eye cannot be brought beyond the middle line. The tongue, uvula and soft palate are normal. Taste and sensation are unimpaired. Electrical excitation of the muscles of the affected side causes a prompt reaction in the triangularis oris and a slight, qualitatively unaltered reaction of the risorius. The muscles of the right side of the face react promptly to galvanic and faradic currents.

Now let us recall the essential features of these three cases. All had defects in the muscles of the face and of the eyes at birth. In the first there was and is an immobility of the face, a sharp turning of the eyes inward, club feet and a marked diastasis of the recti muscles. The second patient has a cousin presenting an undeveloped right arm and hand. The patient himself shows some facial muscles which are completely inactive and others which are wholly or partially spared. Electrical stimulation of the nerve causes a sharp reaction of the

spared muscles. His eye condition is exactly similar to that of the first patient. He had club feet.

The third patient has a unilateral condition. A film formed over the eye in intrauterine life. The eye is turned inward. The left side of the face is almost immobile and electrical stimulation shows a reaction of the risorius and the triangularis oris. The deformed ear and the high hair line are important and even more so the utter absence of contracture.

How, it may be asked, are we to account for the presence of such ocular and facial defects? A brief view of the literature on the subject may assist us in offering a probable explanation of the phenomena. When Moebius, in 1892, reviewed the subject of congenital oculo-facial muscle defects, he concluded that they were due to a "kernschwund," that is, an atrophy and disappearance of nuclei. His was an opinion and was not founded upon anatomical studies. Kuhn, in an important article which I have been unable to obtain, in the original, strongly combated the theory of a kernschwund and championed the view that a primary muscular aplasia was the cause of the condition.

In 1900, Heubner gave the first histological report of a case. His patient, a child two years of age, had from birth a stationary paralysis of the outer eye muscles, a paralysis of the face which was well marked on the right and less marked on the left side, and an atrophy of the left anterior half of the tongue. Histological examination showed a complete absence of the cells of the abducens nuclei. The facial and hypoglossal nuclei on the left side were practically absent, and on the right side the facial nucleus was represented by a diminished number of normal cells. The nerve roots were very small or absent. There was an aplasia of the left olivary body and of the left pyramidal tract. The left posterior longitudinal bundle and the left reticular substance were poorly developed. On the basis of these findings Heubner concluded that the lack of function was due to a nuclear aplasia or agenesis.

One year later, Marfan and Armond-Delille published a clinical and anatomical report of a child who died when 3½ months old. The child had shown a paralysis of the right side of the face and a deformed right ear from birth. There was complete immobility of the muscles when tested with electricity.

Autopsy revealed a deformed petrous portion of the temporal bone, an absence of the inner ear, of the acoustic and of the inner and extra osseous portion of the facial nerve. At the base of the brain the remnants of the acusticus, faciales and Pars Wrisbergii could be made out. The histological examination showed a normal arrangement and number of the cells of the facial nucleus on the left. On the right the number was diminished and those present showed chromatolysis. The author's opinion is that a primary defect existed in the bone, which led to an interference with the nerve and a secondary degeneration of the nuclei. The existence of the intracranial portion of the nerve indicated a pure peripheral lesion.

In 1903 Rainy and Fowler reported a fourth case. A child 10 weeks old had an immobile face from birth. There was no involvement of the eye muscles. The lips would not suck. The only muscles which showed any reaction were the right obicularis oculi at the inner angle of the eye and the right depressor anguli oris. There was no qualitative alteration in the reaction. Histological examination showed an absence of many of the ganglion cells of the facial nuclei and the cells which remained showed chromatolysis, irregular Nissl's bodies and atrophic cell processes. The nuclei abducentes formed a marked contrast to the atrophic cells of the nuclei faciales. The authors contend that there was a cell degeneration and not an aplasia. The presence of nerve trunks even though degenerated was proof positive of the earlier existence of the nuclei from which they sprang.

In 1907 Neurath reported a fourth case with autopsy. The child was first seen when six weeks old. From birth it had shown a right-sided facial palsy; a right logophthalmus, a smooth forehead, and a pulling of the mouth to the left. The lips did not suck, the tongue did. The soft palate was pulled to the left. Many malformations were noted clinically and at autopsy an aplasia of the right kidney, etc. The autopsy was made in the absence of Neurath and no muscle or extra cranial nerve was saved. A careful histological examination of the region of the facial nucleus failed to show any deviation from the normal picture. The root of the right facial nerve was medullated like its fellow on the opposite side and appeared perfect. The same findings might be gotten in an ordinary facial palsy, which the clinical picture strongly suggests. We cannot agree with the author that he was dealing with a primary aplasia of muscle. Yet Abromeit, and more recently Rothman, have given unquestioned assent to the author's view.

However, primary defects or absence of muscle are found. Schenke has reported a case of ophthalmoplegia in which the muscles were absent and the nerves and ganglion cells intact.

Obersteiner examined the cord of a man who had lacked from birth most of the large muscles of the right shoulder girdle and the right side of the neck and found intact anterior horn cells.

That many patients of the Moebius group belong to this class is suggested by the coincidence in the same patient of pectoral or other large muscle defect with ocular and facial defects. Ziehen recently demonstrated such a patient. Schmidt and Israel have recorded similar instances.

This brief review of the literature shows us that muscles may be deficient from birth, firstly on account of a primary muscular aplasia (agenesis), (Obersteiner, Schenke, etc.); secondly, due to an interference with the growth of the nerve (Marfan, Armond-Delille); and thirdly, due to a nuclear cause, which may be either a nuclear aplasia (agenesis), (Heubner), or a definite nuclear degeneration (Rainy and Fowler).

In our three cases we can safely exclude mechanical interference with the growth of the nerves,

and therefore we need consider only whether we have to do with a primary nuclear or a primary muscular lesion. To differentiate the one from the other in our patients is difficult. Our review of the cases which have been studied histologically shows how diverse the anatomical findings may be with the clinical picture remaining much the same. Indeed if opportunity were given us to examine the central nervous system, in serial sections, in our three cases, the differentiation might still be as difficult as it is now. We know that when cells are not called upon to exercise their function they may atrophy and disappear. Edinger has reported the total atrophy of the corresponding anterior horn cells in a man who had suffered an intrauterine amputation of the forearm. Orzechowski has shown as a result of his studies of the cords of patients who had old amputations, that the corresponding cells may or may not atrophy. Hence, were we to find nuclei abducentes et faciales in our cases absent, we could not say whether we were dealing with primary nuclear or muscular defects. Were the nuclei intact a primary muscular lesion would be certain.

Since two of our patients present other defects of a mesodermic character, it would seem that in them it is more probable that the oculo-facial defects are mesodermic (muscular) rather than ectodermic (nuclear).

In the second patient the prompt reaction of the spared muscles, when the nerves are electrically stimulated, must indicate the existence of at least some of the cells of the facial nuclei. While the evidence slightly favors a primary muscular defect, the possibility of a nuclear lesion—either an agenesis or a degenerative atrophy—is so great that a positive diagnosis cannot be made.

Abromeit, with complete literature. *Monat. für Psychiatrie et Neurologie*. Band. XXV, 440-530.

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REPORT OF ONE HUNDRED RADICAL MASTOID OPERATIONS.*

By CULLEN F. WELTY, San Francisco.

In the surgery and after treatment of one hundred radical mastoid operations for chronic suppuration of the middle ear, it is quite natural to have some definite opinion. In the first place, as to the advisability of the operation in selected cases; secondly, as to what may be accomplished by this radical procedure; thirdly, the danger of the operation, in jeopardizing the life of the patient.

As to the advisability of the operation, this part of the subject will be taken up by others. However, I do not mind saying that I have lost two cases following operation (which will be reported later), and that twelve cases that I have seen during this same time have died from cerebral complications, that were produced by chronic suppurative otitis media. This fact alone should almost justify one in the reckless statement that every case of

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, 1909.

chronic suppurative otitis media that has lasted for one year should be operated.

In an analysis of operated cases reported in the CALIFORNIA STATE JOURNAL OF MEDICINE, October, 1905, I concluded that 17½ per cent of cases with chronic suppurative otitis media, die of cerebral complication if not operated, and added that I believed that it would be much more on more thorough investigation. W. Sohler Bryant, *Laryngoscope*, March, 1908, makes a similar statement, placing the mortality for unoperated cases at 26 per cent.

I can say very enthusiastically that the radical mastoid operation has done more for suffering humanity than any single operation in the whole category of surgery, with less risk to the life of the patient. My part in this symposium is to report and analyze my operated cases:

69 males, 31 females. The youngest 3 years of age, for a cholesteatoma. The oldest, J. C. S., 75, complicated by a sinus thrombosis.¹

9 cases were between 3 and 10 years of age.

25 cases were between 10 and 20 years of age.

28 cases were between 20 and 30 years of age.

18 cases were between 30 and 40 years of age.

10 cases were between 40 and 50 years of age.

7 cases were between 50 and 60 years of age.

2 cases were between 60 and 70 years of age.

1 case was 75 years of age.

You will note from this table that the greatest number of operated cases were between 20 and 30 years of age, and that next in frequency, was between 10 and 20. The reason for this is quite obvious, when you consider the causes of acute purulent otitis media and the contributory factors in early life that produce the same.

There is another great cause that has not been sufficiently emphasized, and that is in allowing an acute purulent otitis media to become chronic. The acute condition should not be allowed to exist longer than six or eight weeks without surgical intervention, and at that permanent impairment of hearing may have taken place.

There were eighteen cases of cerebral complication, divided as follows:

Extra-dural abscess	12
Purulent meningitis	1
Serous meningitis	2
Infectious sinus thrombosis.....	1
Fistulae of the horizontal semi-circular canal...	1
Dislodgment of the stapes through caries.....	1

Extra-dural abscess is classed with peri-sinus abscess.

Extra-dural abscess, the most frequent of all, and for that reason the most dangerous, as they are usually the cause of more serious cerebral complications.

One case of purulent meningitis which was operated during the height of the attack, progressed rapidly to a fatal termination in about ten days.²

One case of serous meningitis which was operated, patient comatose for twenty-four hours prior to operation.³

One case of serous meningitis from a patulous oval window with bony destruction of the vestibular wall, was not recognized at operation as this particular lesion. The fistula was discovered, but was not properly interpreted. The patient some time after had a serous meningitis from an infection by this route, would not allow further operative procedure, made recovery.⁴

One case of fistula of the horizontal semi-circular canal; exact lesion diagnosed prior to operation. Continuous nystagmus for forty-eight hours prior to operation, which was much aggravated for twenty-four hours following operation. The dizziness which was present prior to operation, gradually subsided in the course of five weeks, made a complete recovery.

Concluding the cerebral complications in my series of cases, will say, that I have had a mortality of 2 per cent. One patient was comatose for twenty-four hours prior to operation, and the other patient had his fatal malady at the time he was operated. This demonstrates beyond a doubt, how serious these cases of purulent otitis media may become. They should be charged up to neglected cases rather than produce any argument whatsoever against the radical mastoid operation.

Some of the ear surgeons, during the last few years have asserted that cerebral complications were induced by operative procedures, especially meningitis. I have always maintained that this statement was not in keeping with sound surgical judgment, and that the lesions that develop following operation, are primarily dependent upon pathologic processes that have been overlooked at the time of operation, especially lesions of the semi-circular canals; secondly, faulty technic; thirdly, and very rarely, by infection. Such infection that may come in the course of any capital operation, only less so in the ear than in any other part of the body, for obvious reasons. However, when it does come, it is much more serious.

This whole subject of infection following operation has been thoroughly illustrated in numberless cases by Jansen, Neyman, Barrony and others, showing that meningitis, particularly, develops from unrecognized lesions of the semi-circular canals, especially the horizontal.

Some otologists say that cases should not be operated until cerebral manifestations have made their appearance, and in this way cut short the cerebral infection. This is fallacy, poor judgment, and not in keeping with the advanced surgical principles of to-day. The time to operate is before the cerebral conditions manifest themselves, as is clearly illustrated by the two cases that died for me. While if an operation is done during the interval, practically every case goes on to a successful termination, as will be shown in my reported cases. At the same time, some of these cases had cerebral manifestations that cleared up shortly following operation.

There were seven cases of facial paralysis prior to operation; they all recovered from their facial paralysis but one, and he died of serous meningitis.

There were no cases of facial paralysis following operation.

In one case the facial nerve was uncovered by the chisel, not in the least affected.

In five cases the facial nerve was uncovered by caries. In one of the cases the disease had existed so long that the radical operation had been practically done by a large cholesteatoma. After she had recovered, the facial nerve could be traced across the inner wall, and quite a distance below the turn before it disappeared into its bony canal. This patient had considerable annoyance from facial neuralgia for some time, and as she lived away from San Francisco, it was some time before the direct cause of this could be found. The only way to relieve her pain was to put gauze in her ear, saturated with a solution of boracic acid. My explanation of this was pressure from cicatricial tissue encroaching on the nerve.

The second case in which the facial nerve was uncovered was also from cholesteatoma and will be spoken of again in detail.

The third and fourth cases were also from cholesteatoma, and in no particular way interesting.

The fifth case was interesting in this, that I cured him of a chronic suppurative otitis media more than two years ago. He remained well for about a year and a half. The ear then began to discharge, and was allowed to continue for about one month without treatment. Was operated and nerve found uncovered for one-eighth of an inch by caries just posterior to the oval window. It hardly seems natural that this carious process was present when I treated him some two years before. At the same time it is hard to believe that this rather extensive caries at this particular place should have uncovered the nerve in so short a time. But we must conclude that such was the case for obvious reasons.

Four days after operation, wound dressed. Everything satisfactory. Three days later, Thiersch grafts applied, considerable pressure used. Three days following, a partial facial paralysis developed. I think this must have been produced by pressure from the tampon. Fourteen days after operation, the facial paralysis had entirely disappeared. This case illustrates what may be taking place in cases that may be classed in the treatment list, and only go on later to serious complications.

Cholesteatoma was by far the most frequent cause. I should say it was found in more than 50 per cent of the cases. In the majority of the cholesteatomatous cases (60 to 70 per cent) the mastoid cells were carious. In more than half of the latter cases the cells were extensively diseased. In one case, each individual cell, large and small, was filled with a cholesteatomatous mass. The only case I have ever seen, nor have I ever read of a similar case. Can offer no explanation.

I do not believe that the carious process was alone confined to the ossicles and tympanic wall in more than 15 per cent (exclusive of cholesteatoma).

Tuberculosis of the Middle Ear.—When I say that not a single case was recognized as such, it

does not follow that some of the cases were not tubercular. I am thoroughly convinced that some of them must have been, at least secondarily infected by tubercular processes elsewhere.

I cannot do better than make a few quotations: Briegar in a recent publication on tuberculosis of the middle ear, reports his findings in 241 patients who died of tuberculosis. Of these thirty-seven showed inflammatory processes in the ear. Eighteen times the tubercular nature of the inflammation could be demonstrated. In seven cases the tuberculosis had attacked the labyrinth by fistulous communications through the oval and round windows.

Garbini and Ballestr, *Italian Archives of Otol-ogy*, volume 9, page 181, report forty cases of chronic suppuration of the middle ear accompanied by caries. The tubercular process was demonstrated in four by means of bacteriological examinations and experiments upon animals. To emphasize this, Politzer says that a case of acute purulent otitis media should not be allowed to exist more than six weeks in a case of incipient tuberculosis, as it may become tubercular. Similar reports from others.

So we must consider that some of the cases operated were tubercular, and that they are now free from discharge, which speaks for itself. Of course, it is a self-asserted fact that a tubercular process of the middle ear will not recover without surgical intervention.

I have operated cases that had known tuberculosis elsewhere. They have been cured and their physical condition has improved. Have had four cases of Betzold's mastoiditis, of which only one was interesting, from the fact that it appeared as a large abscess low down in the neck and had been reopened two or three times. When he came to see me he was about to have an operation on the neck for the removal of supposed enlarged glands.⁵ The other cases were not in any way interesting.

Many otologists will tell you that they do not recommend operation, because of deafness in the operated ear, or that the hearing will be so impaired that it will be useless for practical purposes. This statement applies particularly to those who do not do operative work, but continue to treat their cases as long as possible.

In the first place, you can tell your patient almost to a certainty prior to operation how much hearing will remain after operation. Provided the case in question has a sound labyrinth (as demonstrated by the tuning-fork) and hears a whisper from one to six feet, you can promise him with almost certainty that the hearing will be improved. This improvement is entirely dependent upon the amount of cicatricial tissue that covers the labyrinth.

You must bear in mind that in chronic discharge from the middle ear (does not become chronic for one year), the ossicles are dislocated from adhesions that have taken place within the tympanic cavity, and as dislocated ossicles cease to perform their part in the conduction apparatus, they naturally only act

as mechanical hindrances to the conduction of sound waves; Jansen and others.

Tabulation of Cases in Regard to Hearing.—Two cases hearing before operation 3 and 4 feet respectively. After operation, whisper 26 feet each. These two cases are very remarkable because of the wonderful improvement. (Mildred Dam, Wheatland, Cal., and H. Blakemore, Lewiston, Cal.)

Twenty-one cases heard a whisper 15 feet after operation; improvement in every instance.

Eighteen cases heard a whisper 12 feet after operation; improvement in every instance.

Sixteen cases heard a whisper 8 feet after operation; improvement in every instance.

Twenty-six cases were unimproved following operation. They heard a whisper varying from contact to 6 feet. All showed shortened bone conduction.

Two cases heard a whisper 18 to 21 feet respectively; were reduced to whisper on contact, and whisper 3 feet. This case has been operated five times over a period of four years, and is now well.

One case heard a whisper 21 feet; facial paralysis. Operation imperative. Reduced to whisper 3 feet. Cholesteatoma. Five different operations in three years; now well.

Two cases heard whisper 10 to 12 feet before operation; were reduced to whisper from 3 to 6 feet.

Three deaf mutes, hearing not improved.

One case heard a whisper 3 feet, reduced to whisper on contact, as the result of an operation on the semi-circular canals. Later examination, no hearing at all.

Three cases disappeared before complete dermatization. I am confident one was made worse, as he heard a whisper twenty-five feet prior to operation.

Five cases remain under treatment.

So in summing up, the hearing was improved in 57 cases. Remained the same in 26 cases. Three deaf mutes. Six were made worse. Three cases disappeared, and five cases under treatment.

It might be interesting to quote some statistics reported by the writer.⁶

Dozent Hammerschlag of the Politzer clinic, collected all reports of operations from 1895-1897, showing by these that in the majority of cases there was no essential difference in hearing, a small percentage show improvement, and about the same number did not hear so well.

Wegener's report (1893) is about the same as Hammerschlag.

Staacke reports 100 cases, hearing improved 31 times, made worse six times, and about one-half remained unchanged.

Grunert improved hearing in 55%,—changed for worse 6%,—unchanged, 30%.

So in comparison, my results have been better than the quoted statistics. The reason for this improvement is somewhat dependent upon the use of skin grafts, and upon the fact that I treat all the surgical cases myself.

Complete dermatization as follows:

3 cases	4 weeks
3 cases	5 weeks
10 cases	6 weeks
17 cases	7 weeks
14 cases	8 weeks
10 cases	9 weeks
9 cases	10 weeks
8 cases	11 weeks
5 cases	12 weeks
2 cases	13 weeks
1 case	14 weeks
2 cases	16 weeks
1 case	20 weeks
1 case	24 weeks
1 case	36 weeks

Three disappeared.

Two cases, 4 years, five different operations, not cured.

One case, 3 years, five different operations, free from discharge for three weeks, and probably permanently cured.

Two cases, one year, and not well.

From 3% to 5% returned during the year with a discharge from the operated ear. This is due to accumulated epidermis and cerumin. When removed and the ear treated antiseptically for a few days, all signs of discharge disappeared. I have not seen one of these cases recur and require a second operation.

Twelve of these cases had been operated by other surgeons.

Six of my own cases had been operated more than once by myself.

Thirteen cases were double radical mastoids, seven of which had both ears operated the same time.

The time consumed in bringing these cases to absolute dermatization, is dependent upon various factors as follows:

1. Absolutely complete destruction of all the pathologic tissue and cancellous cells.
2. Closure of the eustachian tube.
3. Thiersch grafts at the time of operation, or following.
4. Closure of the posterior wound, which is almost universal at the present time, with the exception of complicated cerebral cases.

Under the first heading, I have had several cases, three most pronounced. In one double mastoid, the patient has been entirely well ten or fifteen times, in the course of four years. Each ear has been operated four or five times. He has been free from discharge for six months, the longest time on record, and I believe will remain so. Began to discharge again. This might be a tubercular case.

The other one that I have treated for three years, and have operated five different times, is well. His facial nerve was uncovered by a cholesteatomatus

mass, the cholesteatoma dipping down around the nerve. The last operation but one, I put Thiersch grafts down around the nerve, but they did not take. I have recently curretted the middle ear, and at present it looks more promising than at any time since I have had him. Now well for three weeks.

One case treated six months following operation, disappeared for one year; returned, re-operated, and cured in six months.

Two cases disappeared before cured, one returned in one year. Treatment for three months effected a cure. The other one never heard from (chronic alcoholic).

One case disappeared when just about dermatized. I think should be all right, do not know (chronic alcoholic).

One case allowed to return to the country and have the doctor carry out treatment. Not well. This I will never allow again.

One case disappeared immediately after the fire, almost well. This particular patient was treated by a physician for more than a year at irregular intervals, and when she returned to me, I removed the same piece of gauze that I had put in the ear about eighteen months prior. Patient recovered absolutely.

In thirty-five cases skin grafts were used. In fifteen cases the Thiersch graft was applied six or eight days following operation. Some of these did not remain, but of late I am having much more success.

In ten cases the Thiersch graft was applied immediately following operation. None of these were entirely satisfactory, probably due to faulty technic.

In ten cases one large skin graft was carried into the ear on a piece of gauze. This is the least satisfactory of the other methods in my hands.

In conclusion, I will predict that the radical mastoid operation for chronic suppuration of the middle ear, will continue to grow in popularity, because it has been demonstrated beyond a doubt, that the cerebral affections that develop following operation are dependent upon pathologic conditions that have existed prior to operation.

That by the use of skin grafts, the hearing will be improved in almost every case that has an intact labyrinth, and the after treatment will be very much reduced.

I further wish to predict that the radical mastoid operation will become so popular ten years from now, that it will be as difficult to find a case of chronic suppurative otitis media, as it is to find the large abdominal tumors of twenty years ago.

1 Reported in full, California State Journal of Medicine, February, 1908.

2 Reported in full, L. B., California State Journal of Medicine, July, 1908.

3 Reported in full, E. H., California State Journal of Medicine, February, 1908.

4 Reported in full, Case 1, California State Journal of Medicine, February, 1908.

5 Reported in full, Case 2, California State Journal of Medicine, October, 1905.

6 California State Journal of Medicine, June, 1905.

HISTORY OF A LAWSUIT FOR ALLEGED MALPRACTICE.

By HENRY J. KREUTZMANN, M. D., San Francisco.

The Council of the Medical Society of the State of California has wisely resolved to create a Medical Defense Department; at the next meeting of the Society this action by the Council has to be sanctioned by the members. Few members, possibly, realize the importance of this matter, and in order to show to what an extent upon the most flimsical pretext a medical man may be subjected to expense of money, to waste of time and energy, to worry (worst of all!), the following "history" is written. The material is divided in two chapters:

I—The medical side of the case and the case before the Superior Court.

II—A decision of the Supreme Court of California.

CHAPTER I.

In March, 1897, Mrs. Hanna Bailey, of this city, presented herself at my office; she reported that she had lost a good deal in weight, was very nervous, was suffering for some time from pain in her abdomen, in the right ovarian region; that her menses were regular but rather free. She had been treated by a Mrs. Dr. Edson with poultices and electricity without getting better. Upon examination I found the woman thin; skin over right ovarian region covered with the typical discoloration produced by prolonged application of poultices; there was found by bimanual examination a mass in the pelvis, taking up mostly the right side. Owing to the great nervousness of the patient and her utter inability to relax, I could make out neither origin nor relation of the condition present and I therefore suggested examination under chloroform. This was accepted and the next morning at her residence on Fell street, chloroform was given by the late Dr. Wm. Friedhofer. When she was fully relaxed I made a careful, thorough examination, bimanually, vaginal and per rectum, and I arrived at the diagnosis: cystic tumor of the right ovary, probably of inflammatory origin. Having finished my examination I asked Dr. Friedhofer to examine her without giving him my diagnosis; he pronounced the case a cystic tumor of the ovary. I saw the patient the next day again; I explained everything to her and everything was talked over: absence of any danger of an operation of this kind; the necessity of removal of the ovary, finding the usual difficulty to explain that the tumor is the ovary and that the removal of the tumor meant loss of the ovary; certainty to keep one ovary and womb with continuation of her sexual faculties.

Patient was satisfied to have operation performed, but stated that she did not have at present the necessary money and would see me when she had the money. In September of the same year she came to my office announcing that she now had the money and accordingly she entered the French Hospital.

The time for operation was set over the phone with the then resident physician, Dr. Putnam. In the afternoon of the day before operation I went to

the hospital and examined Mrs. Bailey again; this examination was made not for the purpose of differential diagnosis, it was done in order to reassure myself of the presence of the tumor, having in mind my opinion of an inflammatory origin. At this examination everything appeared as at the examination under chloroform with the exception of an enlargement of the mass. When next day the abdominal incision was made I found no cystic tumor of the right ovary, but a uniformly enlarged uterus, the size of a three to four month pregnant uterus, of a doughy consistency, looking just like a uterus changed through pregnancy, with large blood vessels on the sides; nowhere any protuberances or nodules in the wall. I could not get rid of the reasonable doubt that this was not a pregnant uterus; the assisting gentlemen were singly asked by me, "Can you positively tell me that this is not a pregnant uterus?" Dr. Putnam, Dr. Allen and Dr. Bell (who was looking on) all answered that they could not positively say that this was not a pregnant uterus. I did not feel justified to remove the uterus for two reasons: first, because I was not sure that this was not a pregnant uterus; and secondly, because I felt bound by the agreement not to remove the uterus, as made to the patient. The ovaries were found enlarged with cystic degeneration of Graafian follicles, some of which were opened and excised. The abdomen was closed. The recovery uninterrupted. I have had no further occasion to examine the woman, but Dr. Carl von Hoffmann gave evidence at the trial that he had examined her about one-half year after operation; her menses were then normal, not free any more; the mass was of the size of an orange; diagnosis, fibromyomatous uterus.

It is not possible to decide with absolute certainty what this somewhat puzzling case has really been, since neither at the time of examination under chloroform nor at the time of operation a pathologic examination of the condition has been made. There are two things possible in my opinion: I and Dr. Friedhofer may have both made an erroneous diagnosis; the mass in the pelvis may have been a fibromyomatous uterus. But there is also a possibility that our diagnosis was correct, that besides there existed a small fibromyoma in the uterus; that pregnancy occurred—pregnancy of very short duration, but its stimulus upon the fibromyoma was sufficient to enlarge it rapidly and considerably, as is regularly seen in pregnancy in the fibromyomatous uterus; the inflammatory cyst of the ovary may have been crowded in the pelvis to rupture. Such cysts of smaller size are of frequent occurrence and often disappear; burst under our examining finger; larger cysts are rarer but I have seen inflammatory cysts of the ovary of considerable size, which ruptured and disappeared. This, my opinion, is somewhat supported by the findings of Dr. C. von Hoffmann one-half year after operation, when the uterus had gone back in size.

May this have been one way or the other: No fair person can say that I did not employ ordinary care and skill! If anything was wrong with me, it

is too great care in handling this case. I have learned from this experience! I have never since tied myself to any absolute diagnosis or any definite operation. I tell the people now that there is a condition present, may be a fibroid of the uterus, may be a cystic ovary, which necessitates an operation in my opinion; it has to be left entirely to my judgment, what I am going to do at the time of operation.

Furthermore, I have met in my own practice and have assisted occasionally a few rare cases of enlargement of the uterus, diagnosed as fibromyoma, where there was thrown a doubt in our minds during operation whether this was not a pregnant uterus. My advice is: cut out in such a case the uterus in toto; pronounce it a fibromyoma; take it home and in the seclusion of your home, cut it open and convince yourself of what it is; this is a safe procedure and avoids trouble!

The result of my interference did not produce any damage to the patient, on the contrary as stated at the time of trial an improvement of the condition was noted. But she fell in the hands of the Philistines, that is, of a lawyer, who probably thought to "pick up some easy money." His name was J. J. Burt. Suit was brought on the ground that there was always a fibroid of the uterus present and no ovarian cyst, at the time of the first examination and at the time of operation; this allegation was based on the testimony of Mrs. Dr. Edson; it was said that a physician employing ordinary care and skill of his profession should have discovered that there was a fibroid of the uterus present and that a physician who did not discover this fibroid of the uterus did not employ ordinary care and skill of his profession; this was the kind, sworn statement of Mrs. Dr. Edson. Damages were claimed for "mental worry and anguish before an operation, and for pain and suffering after operation, the patient being sick and sore in bed for three weeks." This claim was made conjointly by Mrs. Bailey and her husband, balm in the modest sum of \$40,000 was asked from the defendant. In the summer of 1899 this suit was acted upon before Judge John Hunt. It took a whole week; the result was a disagreement of the jury, 8 being in favor of the defendant, 4 kind jurors were inclined "to give the poor woman a few dollars" (statement made to me after the trial by jurors). During this trial some remarkable testimony was introduced by the plaintiff's lawyer; a woman, a Mrs. Harris, was allowed to go on the stand, against the objection of the defense, which objection was overruled by Judge Hunt. This woman had years ago been operated upon for double pyosalpinx; both pus-tubes ruptured during operation. As was the custom at that time silk had been used to tie off the organs and drainage had been resorted to through lower angle of wound. Result,—a fistula which discharged for several months, until the last infected silk ligature had come away, and a ventral hernia. I did only what everybody else was doing at that time and all had similar experiences galore. But she was allowed to tell her tale of woe to the jurors,

that she had "a running sore for months after such an operation and that she was ruptured for life"! This testimony was admitted under a manifestly and apparently erroneous ruling of the court, since at no time of the trial was any claim made by the plaintiff that the operation had not been performed properly, that the wound had not healed and that she experienced any after effects. But her narrative made an impression upon the jurors, as some of them told me afterwards, and due to this manifestly erroneous ruling of the judge, the case was not settled then and there. The second trial, a few weeks later, consumed another week and ended after very short deliberation of the jury, in an unanimous verdict for the defense.

Motion was made by plaintiff for appeal to the Supreme Court, based on the statement that "the evidence did not justify the verdict," besides a number of alleged errors of ruling of the presiding judge were added. After the usual delay, a decision was handed down by the Supreme Court of California January 5, 1904, reversing the judgment of the lower court. This decision of the Supreme Court will serve as text for Chapter II. And here the matter stands!

The lawyer, J. J. Burt, the instigator who sought to make a few dollars on a contingency fee, is dead; Dr. Wm. Friedhofer is dead; Judge John Garber, counsel for defendant, is dead; Mrs. Dr. Edson is dead.

It will not be uninteresting for my confreres to know what such a lawsuit may cost. I had engaged Dr. Gutsch as counsel, who acted very successfully and judiciously in several threatened suits against the German Hospital; upon the urgent advice of medical friends, who were concerned very much about this lawsuit for the medical profession at large, I engaged the late Judge Garber as consulting counsel. I had kept an accurate account of every cent that I had to pay in this matter, but "the fire" has destroyed these records and I have to give a summary from memory as best I can:

Fee for the consulting lawyer.....	\$1250.00
Fee for the acting lawyer.....	1400.00
Fee for subsequent lawyer, Mr. Peixotto, whom I engaged in lieu of Dr. Gutsch..	250.00
Expenses coincident with the taking of the deposition of Mrs. Dr. Edson in Sonora	150.00
Transcript of testimony.....	350.00
Fees to jurors and court stenographer....	204.00
Printing of briefs.....	60.00
Printing of transcript of testimony for Su- preme Court	360.00
Incidentals	40.00
	<hr/>
	\$4064.00

Some remarkable practices became apparent to me during these trials! Both sides have to deposit daily \$24.00 for jurors and \$10.00 for the court stenographer; the winning party's money is retained; he receives a golden brick in the shape of a judgment against the other side; the loser receives his deposit back. This is a direct invitation to unwarranted

suits for damages; the one who does not possess tangible property, will not lose anything by instituting a suit; if he wins he is sure to get his money back, because no lawyer will sue any person or corporation who has no "tangible property." If, on the contrary, the plaintiff loses, well then he gets his deposit back and the other side can just as well throw that judgment in the wastebasket.

Another questionable practice I found in the making of transcript of testimony. Lawyers must have that for the pleading of the case; the one who is sued and who is supposed to have the money has to pay pretty stiff prices for the transcript; then the other side gets "a copy" of the same transcript for a trifle! Hardly fair such a traffic!

It was astonishing what an amount of fabricated and "peculiar" testimony was given by Mrs. Bailey, her husband, and her mother, a Mrs. Thonagel, under the guidance of plaintiff's counsel.

The medical expert testimony is deserving of some consideration, too. The star witness for plaintiff was Mrs. Dr. Edson; graduated from Keokuk after a two years' course, she had drifted over half a dozen different places, where she always remained a short time only, to San Francisco. Here, with her husband, she hung out signs: "Diseases of Women; Nervous Diseases; Eye, Ear, Nose, and Throat; Diseases of the Rectum; Electricity." This faker had never performed any operation; she gave it as her opinion that she did not believe in operations for diseases of women and this quack is earnestly considered an "expert" in gynecology by a Superior Court of San Francisco, California, and by the Supreme Court of California.

It was rather a sad sight to see Dr. Carl von Hoffmann, Professor of Obstetrics and Gynecology of the University of California, join hands with this despicable crowd in an effort to humiliate a colleague and deprive a fellow practitioner of his good name and of some of his money. Judge Garber said of Dr. von Hoffmann, "He was willing to examine this woman in order to go on the witness stand and testify against you; his evidence is the strongest in." If a lawyer comes to a physician and asks him to examine a person for the purpose of furnishing evidence in a suit against a confrere, I think it is the professional duty of any medical gentleman to show the door to the lawyer. Dr. von Hoffmann testified himself that he had seen Mrs. Bailey when "asked" by her lawyer; worse than this, Dr. von Hoffmann gave theoretical evidence, detrimental to the defense. He could not testify as to the facts of the case at the time of examination under chloroform, or at the time of operation for the reason that he had not seen plaintiff then. He was asked by plaintiff's counsel: "Suppose the condition of plaintiff at the time of examination under chloroform and at the time of operation was such as at your examination, was it difficult to find that this was a fibroid of the uterus and not a cyst of the ovary?" Now when Dr. von Hoffmann made his examination he knew from the history of the case that ovarian cyst as well as pregnancy were excluded and yet Dr. von Hoffmann

said it would not have been difficult! In my opinion an ethical physician should have called attention to these conditions and declined to answer. But worst of all, Dr. von Hoffmann must have had interviews with plaintiff's counsel, discussed the theoretical question and shown his willingness to answer in a way that was satisfactory to the prosecution,—otherwise the plaintiff's counsel would never have dreamed of putting Dr. von Hoffmann on the witness stand and asking him theoretical questions.

In marked contrast to the conduct of Dr. von Hoffmann was the kind assistance given defendant by a number of medical men of this city,—Dr. Paolo de Vecchi, Dr. W. S. Thorne, Dr. W. F. McNutt, the late Dr. Levi Lane, Dr. Thomas W. Huntington, Dr. Kenyon, all of whom devoted hours of their valuable time, partly on the witness stand, partly waiting to be called on the stand. It is with the feeling of deep gratitude that I am writing this down. Besides their strong attitude in this case toward the defense, it was a matter of great satisfaction to receive numerous letters from colleagues of different denominations praising my determined stand against such a nefarious attempt of extortion; this unsuccessful attempt spoiled a number of attempted or contemplated suits; besides it had the effect that physicians refused to be victimized by submitting to a compromise;—the worst that any physician can do when threatened with a suit.

TUBERCULOSIS, AND THE MODES OF INFECTION.*

By C. C. WALKER, A. B., M. D., D. V. S., Washington, D. C.

There is no intention on my part, to present any new or original ideas in regard to the modes of infection in tuberculosis. For the most part, I shall review some of the recent work of the Bureau of Animal Industry. It will be impossible, in a paper of this kind, to discuss fully all the points coming within the scope of this subject.

Before going into the subject proper, it may be well to refer to the facilities provided by the Bureau for obtaining information at first hand. In Washington, D. C., we have large and fully equipped modern laboratories. These laboratories are in charge of Dr. Mohler, who work is doubtless familiar to most of you. With him are associated several trained laboratory workers. Just outside the city limits, at Bethesda, Md., is the experiment station, with Dr. Schroeder in charge. As I have worked under Dr. Schroeder I have personal knowledge of the valuable work he is doing as an investigator.

The experiment station consists of about 160 acres of land, a modern laboratory, and various buildings and yards, in which are kept nearly all kinds of domesticated, and some wild animals. Everything is so arranged, that careful study may be made of the many diseases of animals.

In addition to our facilities in Washington, we

work in connection with several of the State Agricultural colleges and universities, and we have several special experiment stations outside of Washington. We also have a large force engaged in meat inspection. Our inspectors make careful reports upon all diseased animals slaughtered under Government supervision. These reports show the nature and extent of the lesions, as well as the character of the disease. In connection with our laboratory and experimental work, the autopsy report is of prime importance. In this way, we are able to secure data, in such quantities that we may form some very definite conclusions regarding the variations in pathological phenomena in many diseases, and especially in tuberculosis. I will say that our records show that as a disease tuberculosis holds first place among dairy cattle, beef cattle and hogs.

It is very important that we should not underrate, nor entirely overlook some of the dangerous sources of infection in tuberculosis. A thorough understanding of all the sources of infection is necessary, in order that boards of health and municipalities may draw up regulations and ordinances, which will be the most useful in protecting the public health, and at the same time not work undue hardship upon the human sufferers of the disease, as well as upon the owners of infected herds.

The generally accepted modes of infection in tuberculosis, are: By inoculation; by ingestion and by inhalation.

With reference to infection by inoculation we need not say very much, except to state that it is a known fact that butchers and others, are often infected locally, when the tuberculous material from beef or pork gains entrance to accidental wounds. This is one of the strong proofs that man is susceptible to bovine tuberculosis. We have direct and positive knowledge of such infection through our meat inspection force. Even some of the inspectors have contracted the disease in this manner.

The next two modes of infection, are ingestion and inhalation. I shall consider these together for obvious reasons. Many of us have had it drilled into us, that we generally contract tuberculosis by breathing in dust laden with tubercle bacilli. Hence, regulations and ordinances may be made with the idea that this is the most common mode of infection. Now let us apply known physical laws, common sense and demonstrated facts in considering this question.

To reach the lungs, the air has to pass through tortuous tubes, viz: nose, pharynx, larynx, trachea and bronchi. There are many twists and turns in the air passages before the air cells are finally reached. If tubercle bacilli, which are heavier than air, are suspended by currents, pass with the air into the respiratory tract they are sure, by known physical laws, to strike the side of the tube at the first turn. As the sides of the tube are moist, the tubercle bacilli are bound to be arrested at the first, and certainly at the second turn. This principle is the same the farmer has utilized from time immemorial in separating the wheat from the chaff by the aid of the wind. The heavier wheat falls nearer a straight line, while the lighter chaff is carried further away.

* Read at the Seventh Semi-Annual Meeting of the Central California Health Officers' Association, Hanford, October, 1909.

The air after it passes the larynx, is mostly distributed to the various parts of the lung by diffusion. As another obstruction to the passage of solid foreign particles into the farthest recesses of the lung, where the lesion of tuberculosis generally begins, our microscope shows us that the trachea and bronchi are lined throughout with ciliated columnar epithelium. These cilia are attached to the distal or free ends of the cells, which during life, are in constant motion, waving like a field of grain. The direction of this motion is always from within outward. These cilia protect the delicate lung tissue by seizing and carrying outward everything heavier than air at any rate, and thus they perform their special function.

There is also another point to be considered, and that is, whether or not dried tubercle bacilli, or bacilli floating about in the air, are capable of producing lesions. We have demonstrated, by extensive experiments, that virulent tuberculous material, spread in thin layer and exposed to the sun's rays, is entirely innocuous after less than one hour's exposure.** Again, sputum, when it dries, if it breaks up at all, forms coarse flakes too large to float about in the air to any extent.

Schroeder says: "I do not believe that any one can read the works published by Desoubry and Porcher, Baumgarten, Nicholas and Descos, Ravenel, Dobroklouski, Rabinsowitsch, Vallee, Von Behring, Calumette and Guerin, Schlossman and Engle, Vansteenbarghe Geysez, Petit, The U. S. Bureau of Animal Industry, The British Royal Commission on Tuberculosis, and others too numerous to mention, without coming to the conclusion that tubercle bacilli easily pass through the intestinal mucosa, from there into the lymph stream, and from it to the circulation, to be filtered out by the lung, where they most commonly cause disease."

Calumette and his associates claim that the common mode of infection in pulmonary tuberculosis, is by way of the intestine. We have not only these reasons to doubt that the common mode of infection in tuberculosis is by inhalation, but we have the lesion in the lung, which spreads in a manner to lead us to believe that the starting point is in the capillaries, or at least on the capillary side of the air cell.

Aufrecht says: "The fact is, that the initial changes in the apices in the lung, as I have convinced myself by repeated anatomical examinations, do not spread from the terminal branches of the bronchi"; and he further says, "I have proved the cheesy tubercle in the lung to be associated, not with the final branches of the air tubes, but with the terminal capillaries of the pulmonary arteries."

Kohler in reviewing Aufrecht's work, says: "It deserves wide recognition, as it supplies important

arguments for a thorough revision of the older views about the development of pulmonary tuberculosis."

Cardiac declares that dust ground from tuberculous sputum is harmless to both digestive and respiratory tracts. Some of our brothers may point to the statistics, which show that marble and stone cutters form the largest class affected with tuberculosis, and may account for this by the fact that this class is constantly breathing in the dust created by the industry of the workers. No sane person would expect to find live tubercle bacilli in marble or stone dust.

As a matter of fact, the status of this class greatly helps to bear out our contention, that the most common mode of infection in tuberculosis is by ingestion. The microscope shows us that marble and stone dust is made up of sharp-edged triangular solids. These, when taken into the nose and throat, pass along into the intestines, there causing minute wounds in the delicate mucosa. Thus, the passage of all kinds of bacteria to the tissues beyond is made more easy.

In order to show that we have some grounds for the idea we have with reference to the common mode of infection in tuberculosis, I want to refer to a special experiment made by Dr. Schroeder at the station. One calf and three hogs were injected with virulent tubercle bacilli. The point selected for injection was as near as possible to the end of the tail in each case. These animals, previous to the experiment, were tested with tuberculin and found to be free from the disease. All precautions were taken to exclude infection from food, water and surroundings.

As the lung is the organ most commonly affected in tuberculosis, it seemed desirable to study the path of infection which in these cases was inserted in that part of the body farthest removed from the lung. In this paper, I can only give some of the main results, and refer you to Bulletin 93, B. A. I. Calf 461, died about two months after injection with generalized tuberculosis. Autopsy report of lung is as follows: "The entire lung has a firm, solid character and does not collapse at all. The lower halves of the cephalic and median lobes, the entire azygos lobe, and large patches in the principal lobes are of a dark red hemorrhagic appearance. The whole lung, on surface and on section, is densely and evenly sprinkled with minute yellow areas about one-thirtieth of an inch in diameter, which are made up of aggregations of very minute necrotic points. All the surface lesions are beneath the capsule, and the number of lesions is so great, that more lung is involved than is left unaffected. Microscopic examinations of the little yellow areas show innumerable tubercle bacilli."

There, of course, were lesions in some of the glands which are described in the full report, but which I omit here. The death of this animal was probably due to suffocation, caused by extensive lung disease. Hog 1383; autopsy report of lung: "The lung is adherent to the chest wall and diaphragm, and the various lobes to each other. Sprinkled

** See paper by Dr. E. C. Schroeder, Supt. of Bureau Experiment Station, entitled, "Milk and Its Products as Carriers of Tuberculosis Infection," read at a meeting of the N. Y. Milk Committee, New York, N. Y., April 11, 1908. Dr. Schroeder's paper is printed in the 24th Annual Report of the Bureau of Animal Industry, pp. 183 to 199. He gives a full list of references to literature.

evenly over, and throughout its entire substance, are innumerable tuberculous masses from 1 m.m. to 1 c.m. in diameter: fully one-half of the lung tissue is destroyed. The pulmonary and costal pleuræ, and the thoracic surface of the diaphragm are thickly studded with innumerable tubercles from 1 m.m. to 1 c.m. in diameter.

The lungs of the other two hogs were somewhat similarly tuberculous.

When we remember the point of injection, near the end of the tail in all these cases, we are justified in concluding that there are only two courses for these bacilli to reach the lungs:

First:—That they were taken up by the capillary blood vessels and carried to the lung directly with the venous blood stream.

Second:—That they were taken up by the lymph radicles, passed along the lymph channels, by or through the lymph glands, entered the great thoracic duct and through it were poured into the venous circulation.

The first real check to their easy passage in either case, would be the fine capillary network around the air vesicles in the lung, where the extensive lesions were found.

Schlossman and St. Engle found extensive disease of the lungs in guinea pigs upon which laparotomy was specially performed, and the emulsion of tubercle bacilli placed in their stomachs, thus excluding direct infection through the air passages to the lungs.

Notwithstanding all this, we believe that a large proportion of human tuberculosis is traceable to infection from tuberculous sputum. If very great care is not taken, particles of moist and virulent sputum can gain entrance to the bodies of persons associated with one suffering from the disease. Therefore, we should enforce regulations forbidding spitting on the sidewalks, floors of public houses, etc. We should teach sanitation, cleanliness in and about the house, as well as personal cleanliness. This should be the duty of the physician, the parents and teachers in the public schools.

If we are to accept the facts proved, and the inferences drawn, by these scientific men, concerning the most common mode of infection in tuberculosis, we must consider the dangers from our food products.

I may say, that our experiments, as well as the experiments of others, show that as a general rule, the bovine tubercle bacilli are a more virulent type, and cause more rapid and extensive disease in all animals including man's prototype, than do tubercle bacilli of human origin. Why we should think of excluding man, and call him immune to the more virulent bovine bacillus, is a question that puzzles me.

Our studies show that, while there are two more or less definite types of tubercle bacilli, the human and the bovine, they are closely connected by transition forms. We have repeatedly produced tuberculosis in bovine animals, by injecting bacilli of human origin. We could not reverse this experiment

with malice aforethought for very good reasons. We do not doubt, however, that much of the human tuberculosis, especially that in children, is directly caused by the bacillus of bovine origin.

The food products most liable to contain tubercle bacilli are meat and meat products, milk and milk products. There is, of course, more danger from milk and its products, as they are generally consumed in the raw state. At the same time, there is danger in meat of tuberculous animals. There is more tuberculosis in beef cattle than is generally supposed. I have seen many and advanced lesions in the finest looking and the fattest steers to be found in the country. In one lot of 55 fat steers (so-called baby beef), I have found lesions of tuberculosis in 35. These steers weighed from 1700 to 1900 lbs. on the foot, and at that time the packers paid \$7.15 per 100 pounds.

The dairy cow when used for food, is more apt to show lesions of tuberculosis than other cattle. This is in part due to their greater age and longer exposure to infection. In testing dairy herds the average per cent affected with tuberculosis of all herds tested by the Bureau is about 17.

The percentage of tuberculosis in all hogs slaughtered under Federal inspection in 1907 was 1.43. In certain localities, especially when hogs run in the same field with cattle, the percentage was much higher. I have known of small lots of hogs coming from certain localities to show as high as 60 per cent affected with tuberculosis.

The tuberculous cow, not being constituted like man, does not spit, but coughs up and swallows her sputum, and the bacilli pass out with the feces. We have demonstrated the presence of tubercle bacilli in the feces of tuberculous cows by microscopical examination, and have produced the disease in guinea pigs by subcutaneous injection of cow feces. We have also demonstrated that hogs following tuberculous cattle contract the disease. We have on the experiment station, one stable full of tuberculous cattle, and by the side of this stable is a large yard for hogs, into which the feces from the cattle are thrown. All hogs, before being placed in this yard, were tested with tuberculin, and found free from tuberculosis. A number, however, were born in this yard, and were continued in the experiment. All sources of infection, except through the feces, were excluded during the experiment. Of those that have died or have been killed, all show lesions of tuberculosis at autopsy.

The hog also has a great chance to become infected through ingestion of milk contaminated with tubercle bacilli. In some cases hogs are allowed to eat the refuse of slaughter houses and to consume carcasses of other animals dead of tuberculosis, and thus contract the disease. Hogs may contract tuberculosis from persons suffering from the disease, if, by any chance, they may consume their fresh sputum or feces.

The reports from various parts of the United States show that hogs are rarely affected with tuberculosis when they have no chance to follow cattle, or

to consume dairy products. We conclude from this that, if the disease is eliminated from cattle it will also disappear from hogs.

The frequency with which milk is contaminated with tubercle bacilli has been ably discussed by many, so I need not go into details. As we have shown that tubercle bacilli leave the tuberculous cow with the feces, it is certain that they will be found in the milk, if there is a small or great amount of feces in the milk. We have found that in nearly all milk tested, feces were present as shown by the test tube, after being placed in a centrifuge. Therefore, if there is one cow in a herd tuberculous, or one tuberculous herd supplying milk to a common creamery, the whole lot of milk in either case most certainly will contain tubercle bacilli.

We have positive knowledge that in butter, salted in the ordinary manner, and which was made from milk of a tuberculous cow, the tubercle bacilli will live and be capable of producing fatal disease up to 153 days. I performed the autopsy on a guinea pig which was injected with infected butter kept for 133 days, and found that death was due to generalized tuberculosis. The lungs, liver and spleen of this guinea pig I prepared and mounted in clear gelatin in a watch glass. This specimen was exhibited among others at the International Congress held at Washington.

When we consider the conditions in a country where there is a community creamery, in which butter is made in large quantities, the milk in some cases coming from tuberculous herds, the skim milk being returned to the farms and fed to hogs, we must conclude that compulsory inspection and testing of all dairy herds is an absolute necessity to preserve the public health. The Bureau made a collection of samples from 15 creameries in widely separated regions, and found that 5 or 33 1-3 per cent harbored virulent tubercle bacilli.

I believe, if we have compulsory inspection and testing of dairy cattle, some provision should be made whereby the owners of condemned animals may be paid for same. At the same time, no dairyman can afford, from a business standpoint, to harbor tuberculosis in his herd, the loss in production of milk and of condition in the cows, other cattle, and hogs would fully offset the value of a few condemned animals.

We have in the tuberculin test, when properly used, a means of determining whether or not animals are affected with tuberculosis in at least 97 per cent of the cases, which is an almost perfect test.

The elimination of tuberculosis from our food and milk producing animals, must be taken up if we are ever to eliminate, or greatly lessen the disease in man. Already in this western country, Colorado, Utah and Arizona are organizing forces to eradicate tuberculosis in cattle.

Some of the conclusions we may draw are:

First:—That the most common mode of infection in tuberculosis, is through the digestive tract.

Second:—That bovine tuberculosis is capable of

being transmitted to man.

Third:—That as a disease, tuberculosis holds first place in dairy cattle, beef cattle and hogs.

Fourth:—That the tuberculous cow eliminates the bacilli mostly with the feces.

Fifth:—That hogs, as a rule, contract the disease from tuberculous cattle, by working over their feces or from their milk.

Sixth:—That the milk of any herd where there is one or more tuberculous cows, generally contains virulent bacilli.

Seventh:—That butter as a medium, will preserve the virulence and vitality of the bacilli for at least 153 days.

Eighth:—That to eradicate or greatly lessen tuberculosis in man, we must weed out tuberculous cows from dairy herds and animals used for human food.

SELECTED CHAPTERS FROM THE STUDY OF SPEECH DISTURBANCES.

1. *The Treatment of the Stutterer.*

By HENRY HORN, M. D., San Francisco.

A glance at any of the weekly papers or the morning dailies will convince one that the public has not yet given up hope of finding a patent cure for stuttering. If one for a moment considers what the advertisements must cost the inventors of these wonderful cures, it will be seen that the number of people who are suffering from speech disturbances must be very large. Unfortunately I have had as yet no opportunity of looking into the statistical side of the matter here in America, and as the public school system of California takes no cognizance of these troubles, as far as special education is concerned, I am in no position to say how many of these unfortunate sufferers are to be found in our own state.

The legal position that these advertising fakery have, is, fortunately for them, a very secure one. Although they lay claim to a positive cure for stuttering, if their instruments or methods are used properly, it is practically impossible in court of law to prove that the inventors themselves, being untrained and laying no claim to a medical education, are not convinced of the efficacy of their own methods. They are at liberty to recommend anything that the lay public is foolish enough to adopt.

The most dangerous class of all are those who use suggestive therapeutics of any kind. I think no one will attempt to deny the dangers of hypnotism in the hands of unprincipled persons no matter what manner of disease they propose to treat. It is certainly a reflection on our profession that we allow such advertisements to appear day after day, and never by a word educate the public to their dangers.

In the following paragraphs I will briefly review the modern methods for treating this class of speech disturbances.

1. *Psycho-Therapy.* That the psychological condition of the patient, in the treatment of the stutterer, is of the most vital importance no one will attempt

to deny. This fact was recognized as early as 1830, when Schulthess, the father of the modern treatment of speech disturbances, in his epoch-making work, "Ueber das Stottern und Stammeln," showed that the hypnotic treatment which had been in use since the time of Mesmer was in the vast majority of cases of absolutely no value. The treatment was recently revived by Gutzmann of Berlin, who also saw that even in the light of modern methods hypnotism was to be discarded. The only cases in which it is at all indicated is where the ordinary methods have been used and found of no avail. Space does not allow a close analysis of all the disadvantages of the hypnotic treatment, but even Forel, who in the beginning was so enthusiastic, has recently conceded that no dependence could be placed in any sort of suggestive treatment to the exclusion of other methods.

If the anxiety before speaking were the only element in the case, suggestion therapy would unquestionably be indicated. The argument is often advanced, that when the stutterer is not excited or is amongst his friends, he stutters very little or not at all and that the straining before speaking is entirely absent. These premises are true, but the fault in the argument lies in the fact that the modern methods of studying the breathing of the stutterer have taught us that stuttering, in the narrow sense, and the straining and halting before speaking (the "Anstossen" of the Germans), are not all the same and have different causal elements. One sees stutterers who never strain before speaking and others who do not stutter in the ordinary sense but only strain. There are others again whose trouble is only indicated by accessory movements of the facial muscles or a twitching of the extremities.

The accompanying psychical manifestations of the stutterer disappear spontaneously with the use of a rational method of treatment, and this is only to be expected when we consider that these symptoms are secondary to the disease itself. In fact they are seldom seen in very young children, but begin to appear when the child first attends school and comes in contact with the normally speaking child who jeers at him and causes him to feel ashamed of his condition. This leads naturally to an anxiety in speaking, and later to the conviction that he can not speak at all. The easiest method of overcoming these psychical manifestations is the proper use of a rational exercise method which brings the child quickly to a realization that he can speak and thus these manifestations quickly take care of themselves.

2. *The Dietetic Therapy.* In 1584, Hieronymus Mercurialis, a very shrewd observer of children's diseases, made the statement that stuttering children are often troubled with constipation; a statement which nearly every observer has since been able to verify. As Gutzmann has shown, this may have two causes, it may be of a purely nervous nature or the children have been overfed on meat, eggs, etc., a type that the Germans recognize as "Fleischkinder." If in such a case, the diet is

changed and the constipation is corrected, a complete cure of the stuttering may be accomplished without any other treatment. Lichtenstein, Henoch and others have also shown that various kinds of intestinal irritation may be a potent cause of stuttering and that when corrected the trouble disappears. This is especially true of the presence of worms and this point must never be neglected when one has a case under consideration. A very mild diet, with a minimum of meat, a maximum of vegetables and milk, and proper exercise is the first consideration in all cases.

3. *Gymnastics, Watercure, Climate Cure, Etc.* General gymnastic exercises are of the greatest use in the treatment of these cases; the child becomes conscious of a general well being, is certain of himself, and the entire body is strengthened and co-ordination is better. Systematic work out of doors, such as garden work, walking exercise, etc., should never be neglected.

A general hydrotherapeutic treatment of itself has little value. Only when the treatment with the systematic exercises fails and the patient is very nervous and run down, is a course at one of the well-known springs to be recommended, the regular treatment to be carried on later. The laity have often recommended cold douches as a cure for stuttering. It is mentioned only to be condemned.

That children often improve greatly as a result of a change of scene and climate is well known. This is, however, usually the case with city children who are sent to the country. Just what element the climatic change plays in the result is hard to determine, the change of environment being perhaps the principal factor.

4. *Medical Treatment.* Adult stutterers are the only class of patients in which medicines are at all indicated. In highly nervous and hysterical persons, where through years of suffering the sleep has been disturbed and the nervous system has been affected, it is sometimes well to use small doses of the bromides, the newer preparations such as Bromopin, Bromurol, etc., working particularly well.

5. *Surgical Treatment.* Concerning the surgical treatment of stuttering there is very little to say. The famous French surgeon, Diffenbach, in 1841 startled the surgical world by stating that stuttering could be absolutely cured by excising a large wedge-shaped piece from the tongue. The cases were cured, but only as long as the tongue was swollen and sore, in fact the patient could not talk at all. Before Diffenbach saw the error of his ways several patients were lost through hemorrhage, and finally he himself acknowledged the futility of the operation.

A side of the subject that is, however, of the greatest importance, is the surgical treatment of adenoids and enlarged tonsils. Here they act not only as a mechanical hindrance to proper articulation, but their removal exercises a very favorable influence on the general health of the child. The treatment of all irritating nasal conditions should

not be neglected. The influence of a septum deviation, a spine or a spur on the neuropathic stutterer can hardly be estimated. Gutzmann has shown that even an acute coryza coming on during the treatment of a stutter can cause a relapse and the application of cocaine can immediately cure the same. This illustrates how important nasal conditions are in this trouble.

7. *The Treatment by Exercises.* We now come to that part of the subject which is of the most interest, for here we begin to see how the stutterer is to-day treated in all parts of Germany. The debt of gratitude which the world of stutterers owes to the older Gutzmann and his brilliant son can never be repaid. The following method is the one used in the great ambulatorium for Speech Disturbances of which Gutzmann is the chief. Here, from all parts of Germany, come thousands afflicted with every variety of speech defects, here come students from every corner of the world to study the methods. There are no secrets in the treatment, every one is received with the greatest courtesy and one sees at its best the true greatness of the German clinic.

It is only possible in an article of this length to discuss general principles. The exercises are not published in English, but a very slight acquaintance with the German language would enable one to understand the matter as set down in Albert Gutzmann's little "Übungsbuch."

The basal principle of the whole treatment is extremely simple and is as follows: *The creation of a normal method of speaking, through an imitation of the way in which speech is normally produced.*

It has been repeatedly demonstrated by Gutzmann, by means of graphic methods, that practically all stutterers have disturbances in the breathing mechanism. During speaking they breathe too rapidly, in fact more rapidly than in the quiescent state, a condition just opposite to what should take place. In other cases the inspired air is wasted during the speaking and the patient tries to speak when the lungs are almost entirely empty of air. Aside from these abnormal methods of breathing, which are not necessarily of a spasmodic nature, we find very commonly in stutterers a true spasm of the breathing, or more exactly an absolute immovability of the diaphragm which is in a condition of tonic cramp. Typical clonic cramps of the movements involved in inspiration and expiration are also very often seen.

In the treatment of stutterers, the breathing exercises must follow closely the type of breathing used by the normal individual in speaking. The inspiration must be short, made through the mouth and not the nose, and absolutely without noise. Expiration is the carrier of our speech. The more calmly, the more quietly and the longer the expiration is made, the more calmly and better do we speak. This in a very few words embodies the unbreakable first rule in the treatment of all stutterers of whatever type.

Stand the patient before you in a good light,

place your hands on his ribs and tell him to breathe in quickly and exhale slowly. You will be astonished to find how very short the expiration is. Furthermore he will probably have a marked *stridor inspiratorius*, and if the vocal cords are examined during the inspiration, they will be seen to approach each other instead of separating. Usually in the beginning of the exercises the expiration will not last over 5 seconds, even in robust individuals with a good chest development.

Gymnastic exercises of all sorts should be carried out. The setting-up exercises of the United States Army correspond closely to those used by Gutzmann. The principal point, never to be neglected, is rapid and deep inspiration, with open mouth and without noise during the first half of the exercise and very slow and calm expiration during the second half.

After the breathing exercises have been carried out faithfully for several weeks or until the patient can breathe properly we can pass to the vocal exercises. Our endeavor here is also to follow as closely as possible the normal method of speaking, to use the various sets of laryngeal muscles in their normal sequence and thus teach a proper co-ordination of all the muscles involved. For example, if after a full inspiration we allow the patient to use the first third of the expiration as a breath, without sound, gradually go over into a light whisper and finally increase to a full tone, we have brought all the muscles used in vocalization into play, but in groups and in their normal sequence. These three stages of tone production must at first be exercised separately and repeated daily, and as soon as the patient is able, combined in their proper sequence.

The various forms of beginning the tone which we call "stimmeinsatz" (intonation) are difficult in varying degrees for the stutterer. The breathed intonation is usually very easy, such words as "have," "halt," "house," etc., are easy to pronounce, whereas words with a hard intonal beginning are difficult. We often note that stutterers help themselves over the difficulty by using the breathed intonation and such words as "ice" are pronounced with an "H" at the beginning so that it sounds like "h-ice." One must teach the stutterer to begin a word with the soft intonation and so drill it into him that it becomes a part of his very being.

A most important point is the determination of the height of the speaking voice. It will be found that stutterers usually have a very high-pitched voice, and this naturally puts a strain on the vocal organs and directly affects the ease and smoothness of the speech. The exercises must always be directed to lowering the pitch. Let the patients always speak as quietly, deeply and slowly as possible. The strength of the voice must also be considered. Some stutterers have found out for themselves that when they speak in a whisper they do not stutter. This natural discovery by the patient is directly in the line of our teaching and we should always seek to reduce any unusually loud or harsh voice.

Where we find spastic disturbances in the organs of articulation, we must correct them by proper articulation exercises. For example if a stutterer sticks on the consonant "M" when pronouncing the word "mutter," he presses his lips together and is utterly unable to bring the "m" out. If now he is instructed to hum the "m" before trying to pronounce it, it will come without difficulty. In the same way all the difficult consonants can be studied and methods devised for overcoming the trouble.

Perhaps the most important of all things in the treatment of these cases is the teaching of a proper tempo in reading. Practically every stutterer reads and speaks too fast and with no attention to the time. It is very necessary to develop a monotone in reading, a sing-song style, an exact description of which is extremely difficult to describe in print. The words should run together as if the sentence were one long word. Such reading exercises should be carried on day after day, and even after the patient is apparently entirely cured he must spend at least a half-hour a day with these reading exercises.

A detailed description of the exact methods to be used would far exceed the allowance of this paper. Every stutterer must be studied individually, his case gone into with the greatest detail, and the history taken with great care. Absolutely nothing should be omitted that could have any bearing on the medical or mental side of the case. The character, the temperament, the secondary psychical symptoms should all be carefully noted.

The results of the treatment are always good. The permanence of the cure depends on a number of factors, the chief of which is the patient himself. If he is stupid, lazy and unwilling to meet you half way in the tiresome daily exercises your results will be poor. If on the other hand the patient is intelligent, industrious and will keep up his exercises even after he seems to be cured, your results will be brilliant. No royal cure has yet been devised nor ever will be; continually keeping at it brings success here, as in the solution of any other difficult problem.

LABYRINTHITIS.*

ITS PHYSIOLOGY, METHODS OF DIAGNOSIS AND REPORT OF TWO CASES.

By DR. GRANT SELFRIDGE, San Francisco.

Since the publications of the articles by Richards of New York in 1906, on the surgery of the labyrinth, and that of Jensen in 1907, "on the Treatment of Infective Labyrinthitis after 15 years' experience," and the various articles of Alexander, Barany, Neumann, and their English speaking students, great interest has been shown among the aurists throughout the world in the study of the functional examination of the labyrinth, i. e., the semi-circular canals and cochlea.

To these men, and particularly to Barany and Neumann, great honor is due for the painstaking care they have shown in the development of exact

methods for the recognition and differentiation of pathological affections of these most delicate structures and for the perfection of a technic which permits of a thorough surgical intervention and eradication of disease.

When we consider that 75% of the cases of cerebellar abscess, also that many cases of serous and purulent meningitis are due to infections through labyrinth and they in turn due to extension of chronic purulent affections of the middle ear and its adnexa, we are constrained to urge a most careful study of the labyrinthine functions in all chronically discharging ears, with the hope that thereby we may recognize conditions which in the majority of cases result fatally unless relieved.

It shall be my purpose, therefore, in this paper to touch briefly the anatomy of the labyrinth, its physiology and its experimental physiological history, and take up in order the different tests made use of in the functional examination of the labyrinth.

The labyrinth is composed of two parts, the semi-circular canals, or the static labyrinth, and the cochlea or acoustic labyrinth. Our attention will be entirely confined therefore to the cochlea and semi-circular canals for it is here that we look for most of our information in the tests on labyrinthian disease.

The canals are three in number, the external or horizontal, the superior or anterior vertical and the posterior vertical. Up to the present time no definite information has been published regarding the positive reaction of the anterior and posterior vertical canals and when speaking of the functional examinations it will be understood that our remarks refer to the horizontal canal. The diameter of the canals is about that of a cambric needle and the ampulla is about the size of a pin head.

Membranous canal has its ampulla or dilated end, which contains the hair cells and the crista, and together form the end organ of the vestibular nerve. There is a law in relation to the membranous canal that motion toward the hair cells produces a stronger reflex than when it is away from the ampulla.

"Sensation of movements of the endolymph in the semi-circular canal pass from the crista and its hair cells via the vestibular nerve and its nucleus in the medulla to Dietert's nucleus. From Dietert's nucleus fibres radiate, first to the nuclei of the motor nerves of the muscles of the eye on both sides. Second to the motor neurons of the spinal cord on both sides. Through the former, the ocular movements of vestibular nystagmus are induced and through the latter is brought about the irregular gait which characterizes violent excitation of the vestibular system. The fibres uniting Dietert's nucleus to the glosso-pharyngeal, pneumogastric and other nuclei explain all the concomitant phenomena of the reflex vertigo, the dizzying, the anguish, tachycardia, sweats, etc."

The first attempt to study the physiology of the labyrinth was made by Ritter in 1803, with galvanism, who thought vertigo resulted on the application of the current. In 1820, Purjinke treated his violently insane patients by putting them in a rotating

* Read before the California Academy of Medicine, October, 1909.

chair and observed that vertigo, nausea and vomiting resulted, with nystagmus and disturbance of equilibrium.

Lucae in 1881, observed vertigo with the sensation of external objects moving from increased air pressure in cases of perforation of the tympanic membrane. In some of his cases diplopia was also mentioned.

Flowrens in 1825, opened the external canal in animals and observed to and fro movements of the head and neck in the plane of the external canal.

Various other experiments have been made by different operators, but it remained for Ewald in 1888 to prove the relationship between the movement of the endolymph and nystagmus.

He drilled a hole into the external canal of a pigeon several mm. from its ampullary end and compressed the membranous canal completely with a plug of dental wax. He then drilled another hole nearer the ampulla and inserted a pneumatic hammer, worked with a rubber bulb and noticed that he obtained a horizontal nystagmus to the side investigated, when he made compression of the bulb, and nystagmus to the opposite side when he made decompression.

Jensen in 1898, observed in operative injury of the horizontal semi-circular canal that the patients showed nystagmus to the diseased side.

Hautant in 1906, before the Parisian Society of Otology, reports a case where radical mastoid operation was performed with the finding of cholesteatoma in the antrum with fistula of the horizontal canal. Pressure with a cotton tipped probe produced horizontal nystagmus towards the affected ear. This observation of Hautant confirms the experiment of Ewald.

When an individual is rotated from left to right the endolymph at the beginning of rotation in the right horizontal canal flows toward its ampulla; and that of the left canal flows away from its ampulla. The endolymph, at the commencement of rotation lags behind, but as rotation continues it finally catches up just as the swirling of water in a bucket which is turned round and round. If the rotation is suddenly stopped the flow of the endolymph, apparently reverses itself and flows in the opposite direction. This is the important point to remember when working out the rotary test.

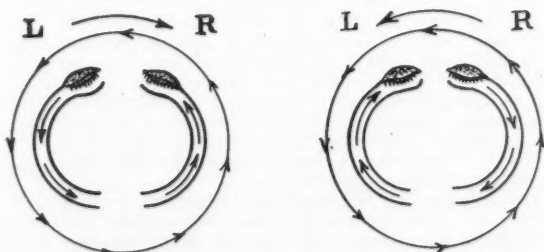


Fig. 1.—Rotating left to right shows the direction of the flow of endolymph at the commencement.

Fig. 2.—Shows the flow at the stopping. In other words, the "sense of the nystagmus at the start is inversely to the sense of the nystagmus at the stop."

Nystagmus has been defined by Contella as a "more or less regular movement, more or less co-ordination of both eyes, that remains associated; this movement manifests itself under the form of rhythmic shocks regular and independent of the will; it is due to an excitation which starting from the centers, it acts through the excito-motor fibres upon the joined nuclei and through inhibiting fibres upon the two opposing nuclei to the preceding ones."

This is the type observed in physiological nystagmus, as on extreme rotation of the eyes, in optical nystagmus i. e., that of miners, myopes, corneal opacities. Physiological nystagmus is said to be present on extreme rotation of the eyes in 60 degrees of individuals.

Labyrinthine nystagmus, however, concerns us entirely, and differs from ordinary nystagmus in that its oscillatory movement presents a quick and a slow phase. In better words a short, quick jerk and a slow one. The short jerk gives us the sense of direction of the nystagmus. As an example, if the slow jerk is to the left and the quick jerk is towards the right, the nystagmus is said to be to the right.

Nystagmus of labyrinthine origin is observed in three degrees, light, strong and violent. The light type is most frequently seen in diseased conditions, is frequently difficult to recognize; is often latent and to observe it one must frequently have the eye rotate in extreme from the suspected side. The strong type is readily seen in the primary ocular position i. e., when looking into infinity. In the violent type the nystagmus is quite evident even when the eye is rotated in extreme toward the suspected side.

Nystagmus may be spontaneous or provoked; spontaneous when disease is present, or when it is physiological. Provoked, when pressure is exerted, when the rotatory, hot or cold water, or electric tests are applied. We find spontaneous nystagmus in diffuse hyperæmia of the labyrinth, diffuse serous and purulent labyrinthitis, circumscribed (fistula), perilabyrinthitis, in serous meningitis of the cerebellar fossa, in cerebella abscess, and in tumor.

From experiments, it has been found that five important tests are to be applied in suspected disease of the labyrinth. The fistula test; rotary test; caloric test; galvanic test; hearing test.

The Fistula Test.—The fistula test is made by inserting tightly a conical or rounded tip attached to a small Politzer bag into the external auditory meatus and then compression of the bulb is made. Now horizontal nystagmus to the side under investigation is produced, if the fistula is in the external canal. The nystagmus may be rotary in character if the perforation is in the neighborhood of the oval window.

The Rotatory Test.—The rotatory test is made in a revolving chair, preferably one where the vertical axis rests on a ball bearing, the feet being placed on a foot rest attached to the moving part of the chair so that they will escape the floor.

The axis of the patient's body should be perfectly vertical and the head supported by a head rest. The eyes are covered with ground smoked glasses and the patient is directed to look into infinity. In order

to examine the function of the right labyrinth the patient is rotated ten times in twenty seconds from left to right and suddenly stopped. The nystagmus on stopping, or the after nystagmus is horizontal and to the left. The average duration of the after nystagmus is 30 to 40 seconds, and is best observed by having an assistant elevate the upper lid and the observer throw the light from an electric light on the eyes.

The point to determine in making the test therefore, is the time the post-nystagmus continues and a comparison of the time between both sides. If on rotating first to the right and then to the left, there is a decided difference in the time of the nystagmus an affected labyrinth on the side of lesser reaction is probably present.

The rotatory test should be confirmed by the caloric test, because it has been noted by several observers that no nystagmus has been noted after rotation when the caloric test has shown an acting vestibular apparatus.

West and Scott, however, state that they make from three to five revolutions allowing five seconds to each revolution and by so doing obtain a post-nystagmus which they do not obtain by more rapid movement, this slower rotation therefore may develop nystagmus in cases that do not exhibit it on more rapid turning.

The Caloric Test.—The caloric test, which is the discovery of Barany, seems to possess greater value in that only one labyrinth is investigated at a time, while the rotatory stimulates both at the same time.

The caloric test can be undertaken in the sitting up or lying down position. Hot and cold water can be used, with preference for cold water at faucet temperature, between 50 and 60 degrees.

An irrigating can, holding two to four quarts of cold water, is fastened about two feet above the patient's head. The water flows through a large tube at the end of which is a small tapering nozzle with a cut off; at the end of the nozzle is attached a one-eighth inch tube which is fastened to a very small metal tube fixed in the center of an ear speculum, the latter being held in the external auditory canal by a spring metal band which goes over the top of the head and near the opposite ear. The water flows slowly into the ear and out again into a basin. The water should be allowed to flow very slowly, the time of its flowing noted with a stop watch, and to be continued until the commencing nystagmus shows itself by a slight wandering of the eyes. The water is now shut off, the patient directed to look to the side opposite the one under investigation and the duration of the nystagmus noted. The nystagmus here is rotatory or horizontal in character.

The average time before nystagmus commences is about 45 seconds, though it has been observed to be delayed for fully five minutes. It persists for from 45 seconds to 2 minutes and over. If the vestibular apparatus is out of commission there will be no nystagmus at all.

The Hearing Test.—The hearing test is best made by introducing the sound apparatus of Barany

into the good ear. This instrument effectually shuts out all sound from the good ear. Then the Bezold tone series may be used, or one may rely on the voice test alone. Or one may use the three meter speaking tube as recommended by the Vienna school, or the small tuning-fork of Edelman.

When the speaking tube is used it has been shown in the Politzer Clinic that 50 per cent of the cases show inability to hear conversational voice and 100 per cent failures to whispered voice; when the good ear is stopped up with the moistened finger. (McKenzie) when the fork is used, it is set in vibration and held 7 to 8 inches from the suspected deaf ear, the good ear being of course stopped up. McKenzie recommends particularly this fork in "making functional hearing tests for one-sided deafness."

Galvanic Test.—In galvanic test from 4 to 6 milliamperes of current will produce a nystagmus in a normal individual, to the right when the kathode is applied to the right side and to the opposite side when the current is reversed. When there is a reaction with less than 4 milliamperes of current with the negative pole, we find "over irritability of that side or destruction of the opposite side" (McKenzie). This test has an element of uncertainty and appears to be of little value.

The symptoms of labyrinthitis, as observed during the course of acute or chronic purulent otitis are briefly:

1. Marked or absolute deafness.
2. Vertigo, slight or severe, with or without sensations of movements in space, or movements of surrounding objects.
3. Disturbance of equilibrium, slight or severe.
4. Slight, mild or violent rotary or horizontal nystagmus to the sound side.

These symptoms may be accompanied by headache and temperature, and when present usually mean commencing intra-cranial complications.

Case 1. George Mountford, aged 47, consulted me in December, '07, stating that his left ear had been discharging for 35 years. He had had a bad cold for the previous six weeks and complained of a sensation of something moving in his head. Two days before consulting me, when getting out of bed, he felt dizzy and things in the room appeared to rotate around him. He got back in bed, took a dose of sodium phosphate and the sensations disappeared. When he got up to go to work he felt more or less uncertain of himself.

At this time the different tests, standing on one foot with eyes closed and open, walking forward and backward with eyes open or closed, hopping forward and backward, did not produce any equilibrium changes whatever. Operation was advised for his chronic discharge and also because I thought his symptoms might be due to pressure of cholesteatoma or granulation somewhere on his labyrinth. Operation postponed by him.

On January 13, '08, when he attempted to walk across the room from a chair in which he had been sitting, he was seized with what he described as a fainting spell and slowly sank to the floor. He did not lose consciousness. His temperature was subnormal. He was moved to the hospital and a radical mastoid operation performed the same day. The bone was sclerotic, granulations were present in

the antrum. No erosion of the horizontal semi-circular canal found.

Following the operation he had temperature up to 100.5°, and from his description undoubtedly had attacks of vertigo though he called them shaking sensations, which were aggravated when he attempted to turn over on his left side. There was a slight nystagmus to the right. He lay on his right side with his knees drawn up.

At each daily dressing the ear was filled with a very foul pus and I was at a loss to locate its origin until some weeks later, after he had left the hospital, when the bone cavity was dermatized except a small area in the neighborhood of the oval window. This area showed a pouting mass of granulation in the center of which I noticed a small drop of pus. I then passed a stiff Jensen probe through it and suddenly felt it drop into the vestibule.

He was examined several times while he was in the hospital by a nerve specialist to determine if his condition was due to a labyrinthine complication or an intra-cranial one. Nothing in the way of definite information was reported from these examinations.

I then became positive that the condition was one of labyrinth suppuration but as his condition was then improving I decided to see what would be the result of the daily introduction of the probe into his vestibule. The result was that the discharge gradually ceased and in two or three weeks the granulating area was completely dermatized.

For some time after leaving the hospital he had considerable trouble in walking and had to stop when he wanted to change his direction, for fear of falling down.

At present he seems perfectly well, but has occasionally a slight sensation in his head which he describes as jumpings. These sensations I have been able to produce by pressure below his oval window, which makes me think possibly there still exists a focus of trouble in his cochlea. Examination of his cochlear functions with the Barany sound apparatus in his right ear shows that he is entirely deaf to the entire Bezold tone series and to the voice. Barany cold water test is negative; rotatory test gives post nystagmus to the left 6 and to the right 12.

I must frankly admit that during the early part of this case the subject of labyrinthitis was almost a closed subject to me and I knew nothing of its functional examination until the first papers of Barany and Neuman and others appeared in special literature. The patient's recovery was a matter of good luck and I am quite certain that with a similar case I would not take such chances.

Case 2. Wildy Mitchell, age 23, during the absence of her physician, Dr. Welty, consulted me first in September for a return of a discharge in her left ear.

She gave the following history: "I lost my hearing at about six years old from scarlet fever, and had discharge up to the time of operation." Both ears operated on radically. The right ear has remained dry ever since.

The left ear was operated on in 1908. It ceased discharging in May, 1909. In July the discharge returned but ceased shortly after, while under the care of a specialist in her home town.

On examination I found a granulating area about one-quarter inch in diameter in the neighborhood of the oval window but slightly below it.

A few days later, on questioning her, I learned that in June she had an attack of vertigo which lasted some considerable time. She felt as though she oscillated in space, and the floor was wavy. On attempting to walk she had difficulty in walking in a straight line but does not remember whether

she deviated to the right or left. She was nauseated only after the first attack. Several similar but much lighter attacks occurred prior to Sept. 19th. She also noted that her eyes seemed to move round and round, this movement being noticed during the entire period of her first dizziness.

On Sept. 8th she complained of her eyes and said she frequently had headaches, which occurred at different times of day; both frontal and temporal: +0.5 spherical lenses were given her which gave her considerable relief.

Sept. 16th she complained of more headaches, so on the 17th I commenced the investigation of her labyrinthine functions. She showed a slight rotary nystagmus to the right side on looking to the right, none to the left. The rotary test showed a very slight nystagmus when testing the right ear.

Sept. 18th the Barany cold water test showed no nystagmus to the right side, i. e., when injected into the left ear. Injecting it into the right ear a very marked reaction rotary, in type, was observed. Sept. 20th an examination of her blood by Dr. Allen showed leukocytes 14000, a differential count showed polynuclears 69 per cent, lymphocytes 22 per cent, large mono-nuclear 9 per cent. For several days her temperature ranged from 99° to 99.6°.

On the 21st the ophthalmoscope showed a slight blurring of the margins of the disc on the left side.

A diagnosis of chronic labyrinthitis was made and the patient sent into the hospital and operated Sept. 23rd, with the assistance of Dr. Wintermute. Complete exenteration of the canals and cochlea. Serous meningitis was not suspected and was only diagnosed when the dura was injured during the progress of enlarging the original radical, before attacking the labyrinth. Almost 4 ounces of cerebro-spinal fluid escaped during the period of operation. Both posterior and middle fossae were well exposed and a drain introduced between the bone and dura of the posterior fossa. There was some escape of fluid on the opening of the cochlea. Granulation filled the vestibule. No visible pus observed.

The day after operation, I noticed nystagmus on looking to the diseased side and that her pulse ranged from 60 to 64, except when a change of the external dressing was made.

It was interesting to note that there was a tremendous escape of cerebro-spinal fluid during the first 24 hours, soaking the dressing, pillow and even wetting the mattress. It gradually lessened and ceased in about 8 days. The low pulse disappeared on the fourth day. Headache was not noted after operation and her subsequent course has been uneventful.

Dr. Thos. J. Harris of New York, in a paper read before the American Otological Society in 1907, gave a very interesting account of post-operative meningitis following suppurative otitis, and reports statistics from two of the leading ear hospitals. In one, ten deaths occurred in eighty-three operative cases, a mortality of 12.5 per cent. At the same meeting Gradle is quoted as giving a mortality of 8 per cent occurring in one of the Chicago hospitals. In the same article Dr. Harris quotes the statistics of Zeroni, who says of the forty fatal cases collected by him twenty-nine at the autopsy showed evidence of chronic labyrinthitis.

Arnold Knapp in the *Archives of Otolaryngology* for 1907, in a paper on otitis meningitis, in mentioning statistics collected by himself, says in twenty-two out of fifty-two cases "the infection extended through the labyrinth." Are not the statistics rather

startling? They do not point to the operative interference as a cause of the intra-cranial mischief, but rather to a labyrinthine involvement latent and already existing at the time of the operation. Therefore, does it not appear self-evident that the ear surgeon of to-day should familiarize himself with the labyrinthine tests, apply them before he operates, and be prepared to thoroughly destroy the semi-circular canals and cochlea if necessary, in order to prevent an intra-cranial invasion.

When we consider that from 2 to 8 per cent of suppurative diseases of the ear present some serious complication, and to quote the words of Dench, in referring to purulent otitis, "are we not justified in operating on practically every case where the discharge can not be controlled by simpler methods," rather than follow the statement of one of the gentlemen at the last meeting of the State Medical Society, that "one could postpone operative interference until complications arose."

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Discussion.

Dr. Wintermute: There is one point in the paper that I do not think Dr. Selfridge made clear. He seemed to indicate that the function of the labyrinth was twofold: auditory and static. It is really threefold. The cochlea is concerned with audition; the vestibule has the static function—by the movement of the otoliths on the hair cell groups of the vestibule, we determine our relative position in space—while the function of the canals is dynamic; by them we determine our movement through space by currents of the endolymph acting on the hair cells of the crista ampullaris. In birds which have to orient themselves through the dimensions of space we find the canals enormously developed compared to man, who, in retrogression of function, orients himself through only two of its dimensions. Another point which was not clear was in regard to the anterior and posterior vertical canals. If I remember correctly he stated that their functional examination had not been worked out. These canals can be examined by placing the patient's head, in the turning tests, so that a current is set up in either one. If you wish to test the anterior vertical canal flex the patient's head forward, in which position the centrifugal impact establishes a current in it, and a rotary nystagmus results depending in direction

upon the direction in which the patient is turned. If you wish to test the posterior vertical, you bend the patient's head over his shoulder while he is turned. Each canal produces nystagmus in its own plane: the horizontal produces a horizontal nystagmus; the anterior vertical lying at right angles to the sagittal plane produces rotary nystagmus, and the posterior vertical, lying in the sagittal plane produces a vertical nystagmus. In regard to the practical results of this labyrinthine work, I think it is the greatest advance that has been made in otology since the inauguration of the radical mastoid operation. The statistics Dr. Selfridge quoted at the end of his paper are eloquent. Eight to twelve per cent of mastoid operations were followed by meningitis in some eastern institutions. These cases were due to labyrinth involvement, which has been unrecognized, and the trauma of the operation broke down the barriers to one of the then direct communications between the labyrinth and the meninges and meningitis resulted. We can now recognize an involvement of the labyrinth and make our operation much more thorough by chiseling out the canals into the vestibule and opening up the cochlea for thorough drainage, and our fear of subsequent meningitis is consequently reduced to nil. Even in those unfortunate cases of unrecognized labyrinth involvement in which a radical operation was done and meningitis did not result, the ear kept on discharging because the labyrinth was not drained, and now the outlook for the operation being successful in stopping all discharges is much enhanced by being prepared to recognize involvement of this region and take steps to adequately drain it. One of the most eloquent tributes to this work is the fact that 75 per cent of the cerebellar abscesses came directly from a labyrinth involvement, and in the clinics where this work is done, the percentage of cases of cerebellar abscess has dropped in a remarkable manner, as compared to the number of cases in the same clinic before the labyrinth examinations were inaugurated. The proper recognition and treatment of labyrinth involvement brings us a long way ahead in prevention of intra-cranial complications, and in obtaining the results we aim at in our radical operations.

Dr. Welty: Some twenty years ago the radical ear operation was perfected, and since that time and including the present there has been considerable controversy as to the advisability of this operation, good men maintaining radically opposite views. The reason of this great difference of opinion was based upon the fact that an occasional case would die in a few days following this radical ear operation, that had been entirely healthy prior to this. This was the great stumbling block of otologists for the past twenty years. During the last few years (thanks to Barany for perfecting labyrinthian tests, and to Dr. Neuman for perfecting the best labyrinthian operation), we will be able to save most of these cases because a large majority of them have a labyrinthian suppuration at the time of operation or a labyrinthian fistula, and from this there developed a meningitis with a fatal issue. From this it naturally follows that the radical ear operation will become more popular, but you must be prepared to make your various labyrinthian tests before operation. When correctly made, and positive prior to operation, you know full well what has happened if a cerebral complication develops. Furthermore, you know much better just what to do. Possibilities and probabilities, and can speak with great assurance in individual cases. As the subject stands to-day, an ear surgeon is not qualified to do a radical ear operation unless he is prepared to do a labyrinthian operation.

The cases of labyrinthian suppuration must be left alone (to die of a possible cerebral complica-

tion), or the labyrinth must be operated at the same time of the radical mastoid. The reason for this is, that the radical ear operation produces an acute exacerbation of the chronic labyrinthitis and from these acute exacerbations most of the serious cerebral complications develop.

THE RELATION OF LAW TO MEDICINE.*

By JUDGE JNO. G. COVERT, Kings Co.

Dr. Musgrave, your President, honored me by requesting that I read a paper to your honorable body upon this occasion upon the relation of law to medicine. I have taken him literally at his word, and will read a paper; although it does not possess that technical treatment and careful preparation of the theme that is usually expected in an instrument that is dignified by reading.

Law is the ultimate voice of society, establishing rules and regulations found to be necessary for its preservation and progress, and providing for the enforcement of the same.

Medicine has for its object the preservation of life and health, the curing of disease and the alleviation of suffering.

Life and health, next to liberty and happiness, is most desired by man. The object of law being to procure to man those things most conducive to his welfare and preservation, it therefore follows that the law is closely related to medicine.

The object of the law, is to assist society, to foster and encourage whatever may be beneficial thereto. Accordingly the law appreciating the benefit of the science of medicine, and the advisability of placing the fewest possible obstructions in the way of practice and progress of medicine, has scarcely enacted a general law that tends to interfere with, or hamper the physician in the practice of his profession.

The law has placed medicine upon a high plane, and has left the government of its practice to the honor, morals, intelligence and code of ethics established by men who have chosen it as their life work.

While the relation between the two professions, or sciences, is near, it is liberal in the extreme, the only object of the law being to aid the profession of medicine, by the enactment of such legislation as will remove the barriers of obstruction and protect the profession and the public from the machinations of the charlatan, and the pretender. I think you will find that almost all law pertaining to medicine, has had its origin in the suggestion of the doctors themselves.

The lawyers, in their practice, rely almost entirely upon the opinion of medical men in matters concerning health, mental conditions, and causes of

death. The courts in examinations, for the purpose of determining the sanity or insanity of a person whose mental condition is questioned, have recourse to the medical profession, and are governed by the opinion of the physician almost solely in their conclusions.

A certificate from a reputable physician, suffices to excuse a person from attendance in court, if in the opinion of the physician who writes it, it would seriously affect the health of the person served with process.

The law prescribes no procedure for the practice of medicine. The physician's knowledge, the surgeon's skill, coupled with his diploma or license from the proper authorities, is his grant of right to administer any drug, however potent, to perform any operation, however dangerous, if in his opinion it is advisable; and if he acts in good faith, he is answerable only to his conscience.

The law has found it necessary, under what is commonly termed police regulations, to enact certain statutes and ordinances, providing for sanitary and hygienic regulations, for the purpose of eradicating and preventing disease. These regulations are based wholly upon the principles of the science of medicine, as enunciated by the doctors; and are established for the purpose of compelling an indolent or careless individual or individuals to conform to such intelligent rules of health as will protect the public and prepare the way for a robust succeeding generation.

To enforce these laws, officials, generally designated health officers, are appointed; and quite naturally doctors, by reason of their professional qualifications, are chosen to fill such offices.

These offices are highly important, not only for the present generation, but for generations to come. If the advice of the physician were followed by all, advice founded upon a profound acquaintance with the laws of nature, many of the ailments from which the human family now suffer most, would be eradicated, and crime lessened to a marked degree.

Therefore, he who accepts an office, accepts a public trust, and is obligated to qualify, and enter upon the discharge of his duties. Unfortunately, it sometimes happens through the faulty, or incomplete construction of the statute or ordinance, that the duties of the officers are vaguely set forth; yet in the main, the conscientious officer can see the way to the discharge of his duties clearly; and the inaptitude of language is always susceptible of correction; and the legislator is generally found glad to correct his mistakes, once they are pointed out.

The health officer inspects the food supplies, and condemns that which he finds unwholesome. He nails a yellow flag and excludes the world from a

* Read at the Seventh Semi-Annual Meeting of the Central California Health Officers' Association, Hanford, October, 1909.

room, a house, a street or a municipality, and imprisons all the persons within the confines of the quarters quarantined, and the law stands behind him to enforce his order.

No ship lands until the doctor has given it a clean bill of health, no matter how exalted the personage of its passenger list; the arbitrary commandant of the army, or navy, must bow submissively to the recommendations of the surgeon, even to the extent of modifying his plans and orders; and the law is always standing behind the doctor, ready to enforce his directions.

You, gentlemen of the medical profession, have always been the friend and comfort of suffering humanity; and humanity owes you a deep debt of gratitude. You have studied, and you have progressed. You have kept a record of your past experiences, you have profited by the efforts of others. Each year marks some new discovery, some new specific; and the human family is the beneficiary of your efforts and your knowledge.

You are called from your slumber, your fireside, your table, on a moment's notice; you must be on your way to minister to those requiring your assistance; by your profession, you have become the guide and prop of suffering flesh; the staff upon which man leans heavily through life. The sacred confidential friend of the family, that stands by the bedside of the mother in travail, and by the bedside of him or her who fights the last great battle, and passes beyond all human aid.

Gentlemen, I am really sorry that I have nothing of practical, or substantial value, to offer you in consideration of your time and indulgence; but in my opinion, it would not be advisable for me to undertake to lay down principles of law, upon which you would rely; because it has been my experience that to get advice or information that is reliable it is necessary that the adviser know the specific facts, circumstances and conditions, and that the law be examined with the purpose of finding that which particularly applies to the given facts.

Gentlemen, I congratulate you upon the great good you have done, and the great progress you have made. May the science of medicine continue in the future as it has in the past, a boon to mankind.

I assure you that the law and the exponents of the law esteem you highly. Our relation has always been cordial, the courts and the lawyers repose the utmost confidence in you, and rely upon you as an able and intelligent assistant in procuring justice and right. You may safely rely upon the support of the law in your efforts for society as a common purpose; our present friendly relations will always necessarily continue.

A CASE OF MASTOIDITIS WITH SINUS THROMBOSIS.*

By Dr. E. C. SEWALL, San Francisco.

F. K., American by birth, age 15, printer. Complaint: Discharge from the right ear.

Family history: Father dead by drowning. Mother well. Brother and sister alive and well. Two miscarriages and one death at birth, before any living children were born.

Past history: Normal birth. Patient always well and strong. Measles two years ago; whooping-cough four years ago. Patient is not a mouth breather. At the age of two years had discharge from the ears, first one and then the other. The discharge had foul odor. On an average of every six months the discharge would appear, usually preceded by a cold. Patient thinks the discharge ceased between attacks (?).

Present illness: The pain is not severe, and is relieved by syringing out. Five days ago the right ear began to discharge in the usual manner, except that there was not as much discharge and more pain than in the previous attacks. At times the pain was throbbing; at other times it was dull and heavy, the whole head aching. No position was comfortable. The day following the pain was very severe; patient was delirious for three or four hours. Was given some powder by a doctor which put him to sleep. Discharge still slight. For the next three days the condition remained the same. The pain started in the right side of the neck and extended up to the mastoid region, thence over the posterior occipital region. In these dizzy spells he staggered, but not more to one side than the other. Has not vomited and has not been nauseated. Has had no appetite. Three nights ago had a nose bleed (patient has been subject to nose bleed more or less all summer). The only sign of possible motor irritation has been a tendency to scratch himself and pick at his fingers. The last day or so has been very irritable—noises, etc., being very distasteful. The discharge is still scanty. The hearing up to the present illness has been fair. The headaches have generally been over the right side of the head, especially frontal and occipital in character. Just before entering the hospital the patient felt cold—had no pronounced chill.

Present examination: Patient well nourished and well developed. Lies comfortably. Eyes: Pupils equal, react to light and to accommodation. Backgrounds normal. Movements normal. Fields normal. Considerable swelling over the right side of the neck, extending upward to the mastoid tip and downward for a distance of 10 c.m. This is tender to the touch and gives pain when he turns his head to the left side. There is no fluctuation, redness or edema. Very little if any redness, swelling, or edema over the mastoid. The region, however, is very tender on palpation, especially at the tip. The external auricular canal is filled with foul smelling, purulent discharge, pulsating in the fundus. On washing out, but little could be made out in the neighborhood of the membrana tympanum; all landmarks obliterated, no typical prolapse of the posterior wall. The whole canal is narrowed and granulation tissue is present. Left ear: Canal normal. Foul purulent discharge in the fundus. Membrana tympanum perforated. Condition of chronic purulent otitis media.

Hearing:

R. Bone cond. Gradenego XV > Air cond., Webber, right.

L. Bone cond. Gradenego XV < Air cond., Webber, right.

Watch contact (right).

Watch 6/36 (left).

Nose: Crusting, bleeding patches on both sides of

* Read before the Academy of Medicine, October 26, 1909.

the septum. Space roomy on both sides. The inferior turbinates are atrophic. No odor, nor pus, although there are a few crusts on the middle turbinates.

Pharynx: Tonsils slightly hypertrophied and buried.

Heart: The right border one c.m. outside. The left border within mammary line. Apex in the fifth interspace. Systolic murmur especially marked in the third left interspace.

Abdomen: Flat.

Liver: Not palpable.

Spleen: Two fingers below the ribs.

Reflexes: Abdominal—present. Cremasters—present. Knee-jerk apparently more marked on the left side. No paralyses.

Rhomberg rather marked. Patient was in no condition for examination for other symptoms of labyrinthian involvement.

The temperature on entering the hospital was 102.5°, pulse 112, respiration 24. The temperature rose to 104.8°, pulse 139, respiration 40, the afternoon of the sixth day of the onset of the acute attack—the first day in the hospital. After hovering about 104° during the night, the temperature dropped to 102° at 8 o'clock the following morning. Pulse 111, respiration 24, at 8:30 a. m. The patient vomited a large quantity. At 2 p. m. the temperature had gone to 103.6°. Blood count showed 13400 white; 78% polys; 2% mono.; 4% large lymphocyte; 16% small lymphocyte. Urine analysis showed a light cloud of albumen.

Diagnoses of mastoid abscess complicating chronic otitis media, with Bezold's extension of pus into the neck.

The mastoid was opened, pus was found immediately throughout most of the cells of the pneumatic mastoid. The radical mastoid operation was done. The diseased mastoid cells were cleaned out down to the firm plate covering the sinus. No perforation of this was found. The malleus and incus were removed. Patient took anesthetic as badly as possible.

Tried for fluctuation in the neck, and although none could be found, for fear that there might be pus under the fascia, an opening was made without finding pus. Patient was put back to bed—the impression being fixed in our minds that we had not found enough pus in the mastoid to account for the symptoms, and also because the neck condition was not cleared up. The chart shows how the temperature for three days following the operation rose and even going on two occasions to 105.2°. The next day the patient had a chill followed by sweating—told of feeling chilly only on being questioned. Following the operation, the patient always answered brightly and said he felt well, which was apt to be misleading. There were chills and sweats at intervals, with great variations in temperature. Two days after the first operation the patient suddenly complained of pain in the left wrist. This was accompanied by swelling and extreme tenderness on palpation.

The blood examination was repeated for malarial parasites. The day following the first operation the blood count was 18400. Two days later the white count was 11400; poly 90; large lymphocytes 2; small lymphocytes 8—a fall in the total white count, but an increase in the percent of polys.

Diagnosis of infected thrombosis of the lateral sinus was now made, and again patient was operated upon. The second operation following three days after the first operation.

The wound was enlarged, the sinus laid bare and its bony wall removed. The mastoid emissary vein had to be ligated and with its free bleeding, gave evidence of the fluidity of the blood in the region of the knee of the sinus. On searching, however, downward toward the jugular bulb a complete obliterating infected thrombosis was found. The ju-

gular was immediately ligated and the infected material removed as carefully as possible. The mastoid wound was not closed—the jugular wound was closed.

The day following the second operation the temperature again rose to 105.2° and the day following to 103.2°. The wounds were then inspected and the jugular incision found to be infected. This was opened and packed loosely. Since then there has been practically no symptom of note. The temperature has gradually declined, until for the past few days it has been normal. Patient feels well and has a good appetite; has been in the garden in his chair, and has walked a little.

It has been 15 days since the mastoid operation. The condition in his wrist has nearly cleared up.

December 1st, 1909—Patient at present is normal in every respect except that the wound has not entirely healed.

Hearing: Right, bone conduction Gradenego IX > air conduction, Weber right, watch contact, conversational voice 3 feet.

Left, bone conduction Gradenego IX < air conduction, watch 3/36, low whisper 4/8.

Discussion.

Dr. Cullen F. Welty: This is a very interesting case from many different standpoints. In the first place it illustrates the serious complications that are sure to follow in many cases of chronic suppuration of the middle ear. Had this patient been operated for his chronic suppuration he would not have been subjected to the more critical operation of sinus thrombosis, which has a mortality of about 25%. I have reiterated for the last six years the advisability of the radical operation, to eliminate these very conditions, and when we are actually confronted with the complications most feared, it does seem to me that conservatism after all, consists in more thorough radical work. Certainly conservatism cannot be associated with any condition that will allow such serious cerebral complications to develop. I hope no offense will be taken at what I am going to say, as we assemble in meetings to criticize and be criticized. In this way we profit by the experience and judgment of others.

In the first place this patient was admitted to the hospital with an acute exacerbation of a chronic ear suppuration. Temperature 102, the following day reaching 104. With such a history and temperature, you are to more than suspect a cerebral complication, and the patient should have been operated at once. During the next 24 hours the patient had chills and temperature of 104 or more. Three days after the patient was admitted to the hospital the radical operation was done. The bone over the sinus looked healthy and should not be disturbed so Dr. Sewell says. Another wait of three days, with characteristic rise and fall of temperature and added to this an embolus to the wrist. At this time the sinus was operated and jugular ligated. Is there any wonder why he continues to have temperature? It is because the patient at this time is suffering from a septicemia. The case should have been operated when he entered the hospital, or at the very latest the following day. The sinus should be uncovered in all such cases. (In fact it is the accepted teaching of the ordinary text-books of to-day), and then if there is any question as to the diseased condition of the sinus it should be opened. You must bear in mind so long as the work is surgically clean you can do no harm in such operative work. The harm comes in the so-called conservatism that we hear so much about, especially from the non-operating otologists. Had this particular patient had his sinus operated at the time or rather when he should have had the radical mastoid, you can say with almost absolute assurity, that it would not have been neces-

sary to ligate the jugular, nor would he have had an embolus, or a septicemia as a result of delay, with the possibility of other endless complications that may follow as a result of the septicemia. Had the operation been done prior to the embolus formation, the temperature would have dropped to normal and remained there with but very slight variations.

I am not familiar with the case where the jugular wound can be absolutely closed.

Dr. Wintermute: The point which struck Dr. Welty also struck me, and that is that the case has decided fluctuation in temperature which should have suggested immediately the possibility of sinus thrombosis. One thing which was not clear in the reading of the paper was the treatment of the vein. I did not quite catch how the vein was treated. In the radical treatment of the vein nowadays it is to dissect it out clean and leave no source of infection behind when you do not get a free flow of blood from below, but if you do not do this you must at least bring the vein out and allow it to drain on the outside of the wound; if that had been done there would not have been the infection of the neck wound that followed.

Dr. F. A. Hamlin: I think that Dr. Sewall's idea in this operation was, that while a meningitis or a sinus trouble had been considered likely, he better not at that time go further as the bony wall over the sinus was clean and clear and the meninges where exposed, were not involved. In regard to the treatment of the vein, the vein was not obliterated or removed, nor was it drained at the site of ligation, and this infection which followed was rather a superficial infection than a deep one and cleared up immediately on opening the wound.

A TESTIMONIAL.

The friends of Professor Von Recklinghausen of Strassburg, Germany, are soliciting contributions for a testimonial to this famous teacher and investigator. Admirers and former pupils who wish to contribute please communicate with Dr. W. Ophuls, Cooper Medical College, San Francisco, Cal.

BILL NO. 1112. ORDINANCE NO. 975. (New Series.)

Providing methods for the prevention of the spread of Tuberculosis.

Be it ordained by the People of the City and County of San Francisco as follows:

Reports by Physicians and Others.

Section 1. Tuberculosis is hereby declared to be a communicable disease, dangerous to the public health.

It shall be the duty of every physician practicing in the City and County of San Francisco, and of every person in charge of any hospital, dispensary or other private or public institution in said City and County, to report in writing to the Board of Health the name, age, sex, color, occupation, address and place where last employed, of every person having tuberculosis which comes under his care or observation. Said reports shall be made in writing on a form furnished as hereinafter provided, and shall be forwarded to said Department of Public Health within twenty-four hours after knowledge of the case comes to said physician or person.

Examination of Sputum.

Section 2. It shall be the duty of the Health Officer when so requested by any physician or by authorities of any hospital or dispensary to make or cause to be made a microscopical examination of the sputum sent him as that of a person having symp-

toms of tuberculosis, accompanied by a blank giving name, age, sex, color, occupation, place where last employed, if known, and address of the person whose sputum it is. It shall be the duty of the Health Officer to promptly make a report of the results of such examinations free of charge to the physician or person upon whose application the same is made.

Protection of Records.

Section 3. It shall be the duty of the Health Officer to cause all reports and all results of examinations showing the presence of the bacilli of tuberculosis made in accordance with provisions of Sections 1 and 2 respectively of this Ordinance to be recorded in a register of which he shall be the custodian. Such register shall not be open to inspection by any person other than the health authorities of the State and of the said City and County, and said health authorities shall not permit any such report or record to be divulged so as to disclose the identity of the person to whom it relates, except as may be necessary to carry into effect the provisions of this Ordinance.

Disinfection of Premises.

Section 4. In case of vacation of any apartment or premises by the death or removal therefrom of a person having tuberculosis, it shall be the duty of the attending physician, or if there be no such physician, or if such physician be absent, of the owner, lessee, occupant or other person having charge of said apartment or premises, to notify the Department of Public Health of said death or removal within twenty-four hours thereafter; and such apartment or premises so vacated shall not be occupied until duly disinfected, cleaned, or renovated, as hereinafter provided. Further, it shall be unlawful for any person suffering from tuberculosis to change his or her residence or to be removed therefrom until the Department of Public Health has been notified so that the vacated apartment or premises may be disinfected, cleaned, or renovated.

Health Officer to Direct Disinfection, Cleaning or Renovation.

Section 5. When notified of the vacation of any apartment or premises as provided in Section 4 hereof, the Health Officer or one of his deputies shall thereafter visit said apartment or premises and shall order and direct that except for purposes of cleaning or disinfection no infected article shall be removed therefrom until properly and suitably cleansed or disinfected, and said Health Officer or deputy shall determine the manner in which said apartment or premises shall be disinfected, cleansed or renovated in order that they may be rendered safe and suitable for occupancy. After the health authorities determine that disinfection is sufficient to render them safe and suitable for occupancy, said apartment or premises, together with all infected articles therein, shall be immediately disinfected by the Department of Public Health; or if the owner prefers, by the owner at his expense to the satisfaction of the Health Officer. Should the Health Officer determine that such apartment or premises are in need of thorough cleaning or renovating, a notice to this effect shall be served upon the owner or agent of said premises, and said owner or agent shall proceed to the cleansing or renovating of said apartment or premises in accordance with the instructions of the Health Officer, and such cleansing and renovating shall be done at the expense of said owner or agent. Such articles that cannot be disinfected or renovated to the satisfaction of the Health Officer shall be destroyed.

Prohibiting Occupancy Until Order of Health Officer Is Complied With.

Section 6. In case the orders or directions of the Health Officer requiring the disinfecting, cleansing

or renovating of any apartment or premises or any article therein as hereinbefore provided shall not be complied with within forty-eight hours after said orders or directions shall be given, the Health Officer may cause a placard, in words and form substantially as follows, to be placed on the door of the infected apartment or premises:

"Tuberculosis is a communicable disease. These apartments have been occupied by a consumptive and may be infected. They must not be occupied until the order of the Health Officer directing the disinfection or renovation has been complied with. This notice must not be removed under the penalty of the law except by the Health Officer or other duly authorized official."

Prohibiting Carelessness of a Person Having Tuberculosis.

Section 7. Any person having tuberculosis who shall dispose of his sputum, saliva or other bodily secretion or excretion so as to cause offense or danger to any person or persons occupying the same room or apartment, house or part of house, shall, on complaint of any person subject to such offense or danger, be deemed guilty of a nuisance; and any person subject to such a nuisance may make complaint in writing to the Health Officer, and it shall be the duty of the Health Officer receiving such complaint to investigate and if it appears that the nuisance complained of is such as to cause offense or danger to any person occupying the same room, apartment, house or part of a house, he shall serve a notice on the person so complained of, reciting the alleged cause of offense or danger and requiring him to dispose of his sputum, saliva or other bodily secretion or excretion in such a manner as to remove all reasonable cause of offense or danger.

Protection of Patient's Family.

Section 8. It shall be the duty of a physician attending a patient for tuberculosis to take all proper precautions and to give proper instructions to provide for the safety of all individuals occupying the same house or apartment.

Forcible Removal.

Section 9. In cases of tuberculosis proven by sputum analysis, or where the attending physician or inspector is willing to vouch for the diagnosis, when the necessary precautions can not or will not be observed, or when others, especially children, are exposed to infection, a patient may be removed by force if necessary, even if consent of patient or family be not obtained, to such place as may be designated by the Department of Public Health.

Printed Precautions to be Furnished by Health Officer.

Section 10. It shall be the duty of the Health Officer to transmit to a physician reporting a case of tuberculosis as provided in Section 1 of this Ordinance a printed statement and report naming such procedure and precautions as are necessary or desirable to be taken on the premises of a tubercular patient. Upon receipt of such statement or report, the physician shall either carry into effect all such procedures and precautions as are therein prescribed, and shall thereupon sign and date the same, and return to the Health Officer without delay; or if such attending physician be unwilling or unable to carry into effect the procedure and precautions so specified, he shall so state on this report, and immediately return the same to the Health Officer and the duties therein prescribed shall thereupon devolve upon said Health Officer. Upon receipt of this statement and report, the Health Officer shall examine the same and satisfy himself that the attending physician has taken all necessary and desirable precautions to in-

sure the safety of all persons living in the apartment or premises occupied by the person having tuberculosis. If the precautions taken or instructions given by the attending physician are, in the opinion of the Health Officer, not such as will remove all reasonable danger or probability of danger to the persons occupying the same house or apartment or premises, the Health Officer shall return to the attending physician the report with a letter specifying the additional precautions or instructions which the Health Officer shall require him to make or give, and the said attending physician shall immediately take the additional precautions and give the additional instructions specified and shall record and return the same on the original report to the Health Officer. It shall be the duty of the Health Officer to transmit to every person reporting any case of tuberculosis, or if there be no attending physician, to the person reported as suffering from this disease, a circular of information which shall inform the consumptive of the precautions necessary to avoid transmitting the disease to others.

Penalty for False Statement.

Section 11. It shall be unlawful for any physician or person practicing as a physician to report knowingly as affected with tuberculosis any person who is not so affected or willfully make any false statement concerning the name, sex, color, occupation, place where last employed, if known, or address of any person reported as affected with tuberculosis, or certify falsely as to any of the precautions taken to prevent the spread of infection.

School Attendance.

Section 12. No instructor, teacher, pupil or child affected with pulmonary tuberculosis shall be permitted by any superintendent, principal or teacher of any public, private or parochial school, except by written permission of the Health Officer.

Report of Recovery.

Section 13. Upon the recovery of any person having tuberculosis, it shall be the duty of the attending physician to make a report of this fact to the Health Officer, who shall record the same in the records of his office and shall relieve said person of further liability to any requirements imposed by this act.

Section 14. Any person violating any of the provisions of this Ordinance shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than five hundred dollars (\$500), or shall be imprisoned in the County Jail for a period not exceeding six (6) months, or by both such fine and imprisonment.

Section 15. This Ordinance shall take effect immediately.

In Board of Supervisors, San Francisco, December 6, 1909.

BILL NO. 1168. ORDINANCE NO. 1040. (New Series.)

Amending Section 9, of Ordinance No. 975 (New Series), entitled "Providing methods for the prevention of the spread of Tuberculosis, which became a law on December 17, 1909.

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. Section 9 of that certain Ordinance numbered 975 (New Series), and which is entitled "Providing methods for the prevention of the spread of Tuberculosis," which became a law on December 17, 1909, is hereby amended so as to read as follows:

Section 9. Whenever a person having tuberculosis is unable for financial reasons, or from any other cause to comply with the rules of the Board of Health providing the precautions to be observed to prevent

the spread of infection, or when such person willfully refuses to comply with said rules and in all cases where children are unavoidably exposed to infection, the Board of Health may, on presentation to it of proof that such person is a sufferer from tuberculosis, order his immediate removal to a hospital or other institution for the care of sufferers from tuberculosis. Such person shall not be permitted to leave such hospital or other institution until the danger of infection has been removed or he is able and willing to comply with the precautions and rules herein referred to.

Section 2. This Ordinance shall take effect immediately.

In Board of Supervisors, San Francisco, January 5, 1910.

CALIFORNIA ACADEMY OF MEDICINE.

"CHRONIC URANIUM NEPHRITIS IN ANIMALS."*

By E. C. DICKSON, San Francisco.

Dr. E. C. Dickson reported a second series of experiments upon the production of experimental chronic nephritis in animals by the use of uranium nitrate, and demonstrated gross specimens and microscopical slides to illustrate the lesions produced. The experiments were a continuation of those reported in the Archives of Internal Medicine, Vol. III, No. 5. The animals chosen for this series of experiments were young pups which had been fed upon milk, bread, mush, etc., but practically no meat, as it was hoped that in this way the occurrence of spontaneous lesions might be prevented as much as possible. Five pups were subjected to experiment and one normal control was kept in the same cage. All of the injected animals showed some reaction during life, as was indicated by the presence of albumin and casts in the urine. Two of the animals which had received the smallest doses per kilo within a given time showed slightly mottled kidneys with small dimples upon the surface. The microscopic sections showed some thickening of the glomerular capsules, and some increase in the intertubular connective tissue. One animal, which had received a larger dose per kilo, showed very large, markedly mottled kidneys with distinct dimpling on the surface. The sections showed marked parenchymatous change, definite thickening of the glomerular capsules, and in some places very marked increase in the intertubular connective tissue. The remaining two animals which had received the largest doses per kilo in the given length of time, showed very marked shrinkage of the kidneys with thickened, firmly adherent capsules, and with very definite granulations on the surface. In one there were distinct macroscopic retention cysts. The cortex was thin and pale, and the whole kidney substance was very fibrous. The microscopic sections showed very marked increase in the connective tissue with thickening of the glomerular capsules, atrophy of the tubules, and in some places, cystic dilatation of the glomerular capsules. The newly formed connective tissue was very cellular, and it was evident that the condition was progressive. The type of change was very similar to that produced in the guinea pigs in the previous experiments. In the animals in which there were the most severe kidney lesions, the relative proportions of the heart and body weights would indicate that there was definite hypertrophy of the heart. A few slides were shown of similar, though less marked changes which had been produced in the kidneys of rabbits.

(A more detailed report will be made within a few weeks.)

* California Academy of Medicine, Dec. 21, 1909.

Dr. Wm. Ophuls: I am very much interested in this subject as I have been working on the experimental reproduction of nephritis in animals for some time. I am particularly interested in Dr. Dickson's experiments because he has been so successful in producing lasting and progressive changes in kidneys, a result which so far has not been accomplished by any other method to the same degree. I think there is no doubt that in this instance the effects observed are actually due to the substance introduced as the lesions are extremely characteristic and as they are similar in the different animals, that have so far been tested. Guinea pigs, rabbits and dogs have given similar changes which hardly could be a matter of chance. Moreover, our studies of spontaneous nephritis in these animals which we have conducted at the same time show that the lesions in such cases are very different from those observed in these uranium animals and our control investigations have also shown that, particularly in the guinea pig, spontaneous nephritis is extremely rare. It is quite common in dogs, somewhat less so in rabbits, although in both cases of a different type from that which Dr. Dickson has demonstrated, but among 100 specimens of control guinea pig kidneys we have encountered marked nephritic changes in two only. I think the experiments open up a very hopeful field of experimentation and that there are important questions connected with nephritis which these experiments are sure to solve. One is the relation of the chronic renal lesions to the disturbance of circulation which are commonly observed in chronic nephritis. These experiments evidently must show eventually whether the rise of blood pressure which we have in cases of chronic nephritis in man is due to the destruction of the kidney substance, or due to the accompanying vascular lesion. Dr. Dickson has already indicated that even now there are some suggestive facts about the experiments, which seem to show that the animals experimented upon do actually have increased blood pressure and as a result, a certain amount of hypertrophy of the heart. The number of experiments, however, is not large enough as yet to draw any very sweeping conclusions. Another problem that has always been one of great interest is the relation of chronic nephritis to arterio sclerosis. You know that there are quite a number of authors who assume that the arterio sclerosis, at least in a certain number of cases, is secondary and perhaps the direct result of increased blood pressure. This problem also should be elucidated by such experiments. I think Dr. Dickson's idea of trying the effect of substances on young animals is a very good one; in the first place because young animals are not very apt to show spontaneous lesions, and in the second place, if severe changes are produced in young animals, we may hope to continue them alive for a sufficient length of time to develop secondary lesions. The exact relation of this experimental disease to human nephritis is another question. We are just now making a comparative study of nephritis to this experimental disease and from what we have seen so far it seems quite evident that the experimental disease is not identical with the type of chronic nephritis in man which it otherwise simulates. To the naked eye the most severely affected kidneys look very much like ordinary granular contracted kidneys, but the histological picture differs strikingly so far as the blood vessels and glomeruli are concerned. In man we always have a very severe arterio sclerosis which of course may be secondary, but we also have changes in the glomeruli distinctly different from those which Dr. Dickson has observed in his experiments. However, though it should not be possible to absolutely reproduce the picture of chronic granular kidney, it still will be very important to solve the above-mentioned two problems in relation to the disturbances in circulation and to the accompanying arterio sclerosis.

Regular Meeting November 23, 1909.

Presentation of a case of Hodgkin's Disease by Dr. Ebricht:

This man is 27 years old. One year ago last May he noticed that his neck was getting larger on the left side. The following August, fifteen months ago now, he was operated upon in Chicago and lymph glands removed from his neck and a diagnosis of tuberculosis was made, whereupon he came to California. But the swellings soon returned, not only at the site of operation on the left side of the neck but also upon the right side, and in both axillae. In May of this year his neck was very large and the enlargement of lymphatic glands was seen also in the axillae and at the angle of the left scapula. This latter small gland was removed and on section presented the usual evidences of Hodgkin's disease. The patient's spleen and liver were enlarged and there were signs of consolidation at the right pulmonary apex. It seemed to me that this was atelectatic rather than tubercular, so to be sure the patient was kept in bed in hospital for several days and his temperature carefully measured for variations and he was given 2 mg. of TO and later 4 mg. of TO, but there was no fever and no tuberculin reaction. The point to which I wish particularly to draw attention, and which was the reason for presenting this patient to you, is the result of therapeutic use of the X-ray. Iron and arsenic and forced feeding had been tried with no result. He had been sent to the country for the summer and became worse. So last August, when his neck measured 15½" in circumference and his hemoglobin was down to 50% (von Fleischl) he was sent to Dr. Painter for X-ray exposures. The result was extremely gratifying. After a dozen treatments at the rate of two a week his neck was much better in appearance than at any time during which he was under my observation. And he felt very much better generally, so much so that he asked permission to go to work at bookkeeping. His neck measurement dropped from 15½ to 13½" and his blood showed 69% hemoglobin instead of 50%. The red cells have always been above 5,000,000. On palpation the glands after the treatments were individually smaller and as a whole less tense and matted. Unfortunately the spleen and liver have been steadily enlarging and the glands of the axilla and the mediastinum have been growing worse. So although the improvement of the cervical glands has been decided and the encouragement derived by the patient has been great enough to make him happy and hopeful, there is unfortunately no reason to give other than the usual ultimate prognosis.

Dr. Montgomery, discussing:

The curious phenomenon of the action of the X-rays has been mentioned; their action on lymphosarcoma or Hodgkin's disease, on leprosy, one of the infectious granulomata, on cancerous tissue, and on mycosis fungoides. Up to the time of the introduction of the treatment by X-rays, we had no remedies that would act on any of these diseases in a curative or amelioratory way. The extirpation of the part affected with cancer is not curative in a therapeutic sense, it is annihilation of the locality involved. In regard to the way in which the X-rays act we are entirely in the dark; we only know that they are tried and that they are found to modify the above-mentioned affections. A case of leprosy has recently been reported as probably cured by the X-rays.

Dr. Ebricht:

With regard to the temperature in this case, I would say that the patient was in the hospital for 4-5 days and the temperature was watched every 2 hours; there was no variation; there may have been

a run of fever at some time during the course of this disease, however. There have been exacerbations in the size of the glands at times. I do not think the improvement in this case is a permanent one; the best we can hope to do is to prolong the life of the man and make him more comfortable. Some light has been thrown upon the action of the X-ray. Experiments have been made on rabbits which showed a destruction of the lymphatic tissues. In this case the liver and spleen have gotten larger steadily, the glands in the axilla have also steadily enlarged, those in the neck have gone down, the hemoglobin has gone up and down. After four or five treatments with the X-ray the hemoglobin was 50%, it is now up to 69%. I think that our position in regard to this particular kind of treatment should be that where the glands are large and give disturbance from pressure, it is right to use the X-ray and see if relief cannot be gotten. It is generally acknowledged that better results are obtained from the X-ray than from arsenic or iron.

SOCIETY REPORTS**BUTTE COUNTY.**

The regular monthly meeting of Butte County Medical Society was held at Chico at the Sisters' Hospital Sunday at 5 p. m., February 13, Dr. E. A. Kusel of Oroville, president of the Society, presiding. The following members were present: Drs. P. F. Bullington, C. L. Browning, N. T. Enler, E. A. Kusel, D. H. Moulton, O. Stansburg, B. F. Spurgeon, Ella F. Gatchell. A large number of the nurses of the city were also present.

Dr. J. H. Parkinson of Sacramento, president of the State Medical Society, was present and addressed the society on the advantages of organization in regard to social aspect, financial matters and legislative business.

A paper on the "Relations of Physician and Nurse" was read by Dr. N. T. Enler, and the subject was further discussed by Dr. Parkman, whose remarks were exceedingly interesting.

ELLA F. GATCHELL, Secretary.

RIVERSIDE COUNTY.

The February meeting of the County Medical Society was held on Monday evening, February 14th, at the Glenwood Hotel and had about eighteen members present. Following the banquet which was held at the hotel, Dr. W. L. Holt of Banning read a very able paper on the subject, "Economics and Tuberculosis." Dr. C. M. Haring, associate professor of Veterinary Science, University of California, met with us and gave us a very interesting and instructive talk on the subject, "Tuberculosis in Cattle."

At a recent meeting of the Society, we decided to take up the matter of medical inspection of schools and appointed a committee of three, Drs. Tucker, Martin and Girdleston to confer with the City Board of Education to make an effort to bring about this inspection.

It was decided that the members of the Medical Society should give the necessary time to make a thorough examination of the three thousand school children in our public schools, without compensation. We feel that this is a very encouraging step for the preservation of the public health in this community.

The Society has already taken action in regard to the attempt of the Kaplan Medical Publishing Company to appropriate the Register and Directory of the State Society, and has refused to accept the publication.

GEORGE E. TUCKER, Secretary.

REPORT OF THE MEETING OF THE SAN JOAQUIN VALLEY MEDICAL SOCIETY, HELD IN FRESNO, MARCH 8, 1910.

The San Joaquin Valley Medical Society met in the council chambers of the City Hall, Fresno, March 8, 1910. Dr. P. Manson, president, called the meeting to order at 11 o'clock a. m. There was a good attendance of physicians from all over the valley, from Stockton to Bakersfield. Owing to a long program, the business was cut short and the society proceeded to the reading of papers.

Dr. Manson read an address to the society on "The Benefits of Medical Organization." We were favored by having several of the profession from San Francisco present who read papers. Following is a list of the papers read:

"Indications and Contra-Indications for the Use of Spinal Anesthesia," Aso W. Collins, M. D., San Francisco.

"Treatment of Heart Failure," Emile Schmoll, M. D., San Francisco.

"Tonsilectomy vs. Tonsilotomy," Jas. A. Black, M. D., San Francisco.

Address by Jas. H. Parkinson, M. D., President Medical Society, State of California, Sacramento, Cal.

"Benign Conditions of the Uterus that Resemble Malignancy," W. W. Cross, M. D., Fresno, Cal.

"The Importance of Blood Findings to the General Practitioner," Grace Thorne Hopkins, M. D., Fresno, Cal.

"Report of a Case of Polycystic Degeneration of the Kidneys," J. D. Dameron, M. D., Stockton, Cal.

"Prosecution of Illegal Practitioners," J. A. Crshaw, M. D., Hanford, Cal.

The following were elected: President, W. W. Cross, M. D.; 1st Vice-President, W. E. Lilley, M. D.; 2nd Vice-President, J. A. Crshaw, M. D.; 3rd Vice-President, J. T. Perry, M. D.; Secretary, Grace T. Hopkins, M. D.; Assistant Secretary, D. H. Trowbridge, M. D.; Treasurer, T. M. Hayden, M. D.

The Fresno County Medical Society tendered the members present a banquet at the Hotel Bascongado, where they all enjoyed the novelty of a real French dinner.

D. H. TROWBRIDGE, M. D., Secretary.

SANTA CLARA COUNTY APPOINTMENTS.

The names of the Santa Clara County medical appointees for the year beginning March 1, 1910. Reappointed: Dr. William Simpson, County Health Officer; Dr. K. C. Park, City Physician. New appointments: Resident Physician to County Hospital, Dr. Jonas Clark of Gilroy; Physician to County Almshouse, Dr. M. V. Mulcahy; Interne at County Hospital, Dr. F. L. Horne.

BOOK REVIEWS

Text Book of Physiology. By Wm. Howell, M. D., Third edition, etc. Publishers, W. B. Saunders Company, 1910. Philadelphia and London.

Howell's text book is such a companion to the student of physiology that it is difficult to place it at a distance, gain perspective and say just why it is so. Its thorough appreciation requires a certain amount of preliminary education as it makes little attempt to supply to the student deficiencies in histology or anatomy, and it supposes a fair acquaintance with the work of a physiological laboratory. To the student so grounded it becomes a very satisfactory text, bringing to him the latest conclusions upon various topics and their experimental basis, and when debatable stating briefly alternate conclusions and the data upon which they rest, so saving the student from a certain dogmatism of conclusion and statement. The author has introduced historical résumés occasionally to show the student how gradually and by what processes knowledge has arisen,

and that sound conclusions are reached gradually as an evolution.

The second edition of two years ago contained much new in the field of digestion and assimilation resulting from chemical researches. The third and present edition adds to the chapter on reproduction a "suggestive contribution by Rubner to the difficult subject of growth and senescence," based upon a careful study of the relation of the total calories of food to weight and growth at different ages in men and various animals.

Various other new facts and theories such as are warranted by a review of recent published researches of recognized value are added.

The worth of the text appeals to both student and practitioner. F. W.

Bier's Hyperemic Treatment. By Willy Meyer, M. D., and Victor Schmieden, M. D. Publishers, W. B. Saunders Co., 1909.

No better evidence of the popularity of Bier's mode of treatment can be given than the appearance of Willy Meyer's and Schmieden's second edition of their book in so comparatively short a time. The demand for this edition is undoubtedly due to the extensive field of adaptability of the hyperemic method of treatment, reaching as it does into all branches of medicine, and to the excellent results obtained under its proper application.

As a cure and therapeutic agent artificial hyperemia has now an established and honored position in our armament against inflammatory processes, but gaining its greatest triumphs when used prophylactically.

Of course, it must not be assumed that now the millennium has come; that all that is necessary to effect a cure is to apply the elastic bandage, glass cup or hot air box. Far from it. If the rules laid down in this book are not closely followed; if, in case of acute and chronic inflammations, a correct diagnosis, even as to details, does not underlie the treatment, the trouble will get worse, instead of better, under hyperemic treatment.

If, on the other hand, the physician strictly follows the directions given and, above all, is mindful of the fact that a gentle hyperemia only is required to produce the desired effect, at least in cases of acute infectious inflammation, in other words, that a "too much" is absolutely injurious, he will soon become convinced that in Bier's treatment we have a most powerful and efficient remedy, altogether unlike any other known to us before. He will then grasp the full truth of Bier's new teachings that have revolutionized all our former theories and ideas regarding the nature and significance of inflammation, proclaiming the latter a salutary process, representing nature's own weapon in fighting the invading foe, a phenomenon that must be favored and encouraged, not combated. The fact that artificial hyperemia, properly applied, can prevent the outbreak of a threatening inflammation, or the spread of a beginning one, is absolute proof of this assertion.

Exceptions must be taken to the greater part of Chapter V, relating to hyperemic treatment in medicine. That "the application of the neck band has produced noteworthy results in epidemic cerebrospinal meningitis" demands confirmation. How many pediatricists will adopt Bier's elastic neckband "to obtain more rapid loosening of the diphtheretic membrane and to prevent descent of the process into the larynx and subsequent complications"?

The use of Kuhn's patented lung suction mask for the hyperemic treatment of pulmonary tuberculosis is explained in greater detail than clinical experience would seem to justify.

Willy Meyer and Schmieden have been very successful in securing numerous and appropriate illus-

trations, all of which are clear cut and bring out decisively the idea they are intended to convey. These, in conclusion with a well-written text, and the report of cases, exemplify the detail of technique and the appropriate apparatus in a very valuable and comprehensive manner.

The indexed bibliography is complete; the general index makes the volume very serviceable.

G. A. W.

Psychology Applied to Medicine. By David W. Wells, M. D. F. A. Davis Company, Philadelphia, 1907.

In this small book of 140 pages, the author first reviews the elementary principles of psychology and then discusses the subjects of hypnotism and psychotherapeutics. The latter part is very interesting but on the whole can hardly be said to do justice to this large and important subject.

Principles of Surgery. By N. Senn, M. D., Ph. D., LL.D., C. M. Revised. Fourth edition by Emanuel J. Senn, M. D., and Emanuel Friend, M. D. Publishers, F. A. Davis Co. 1909.

Published at the zenith of the great Senn's surgical activity (1890), the first edition of this volume was the first systematic presentation of the subjects of bacteriology and pathology in the light of recent discoveries; it, therefore, did much to interest the rank and file of the profession in the newer developments. His teaching of modern surgical pathology has had a permanent effect upon American surgery, and his experimental investigations gave a lasting impetus to both general and special surgery. Senn's services as "master surgeon," as clinical teacher and as experimenter have received universal recognition.

Those Nerves. By George Lincoln Walton, M. D., Consulting Neurologist to the Massachusetts General Hospital. Publishers, J. B. Lippincott Company. 1909.

This delightful little book, by the author of "Why Worry," could have been called, as he himself suggests, "That Brain."

Dedicated "to those who need it," its perusal will be found to benefit any and every one of you and your patients. The least nervous will find that he does some thing, has some habit or weakness that is not just the characteristic of a normal brain. To be sure, I felt that nothing in it would apply to me, and laughed aloud at the quotation from Epictetus, and then, a few moments later there came an earthquake (March 10th), an inexplicable oppression and tachycardia. Here is the quotation:

"In a voyage, for instance, casting my eyes down upon the ocean below and looking around me, and seeing no land, I am beside myself, and imagine that, if I should be shipwrecked, I must swallow all that ocean; nor does it occur to me, that three pints are enough for me. What is it, then, that alarms me, —the ocean? No; but my own impressions. Again, in an earthquake, I imagine the city is going to fall upon me; but is not one little stone enough to knock my brains out? What is it then, that oppresses and makes us beside ourselves? Why, what else but our own impressions?"

R. B.

Text Book Upon the Pathogenic Bacteria. Joseph McFarland, M. D., Publishers. W. B. Saunders Co., Philadelphia. 1909.

The sixth edition of this "Text Book Upon the Pathogenic Bacteria," is a volume of seven hundred and nine pages, an increase over the preceding edition of about sixty pages. It has been extensively revised, and is well up with the recent advances of investigation. The general plan of the book is good, and the subdivision logical, making it a volume from which the student can readily obtain a systematic knowledge of the subject.

The first section upon "general considerations" is fairly complete, giving sufficient detail without too much comment. The descriptions of technique are concise, and the discussion of the preparation of the culture media, and of the differential staining methods indicate the difficulties which are apt to be encountered. The chapter on "Immunity" presents the subject matter most clearly, and has been considerably enlarged to include the recent studies which have been made. A new chapter has been inserted on the phagocytic powers of the blood and the opsonic index, but for some reason, reference to this has been omitted from the table of contents.

The grouping of the bacteria according to their pathogenic action, and the concise though detailed descriptions of the cultural characteristics present to the student a systematic scheme which is easily understood. The short resume of the chief characteristics at the head of each description is especially convenient for rapid review. The discussion of the pathogenic action and of the therapeutic applications are sufficiently detailed to be easily grasped. The chapter on "Syphilis" has been entirely rewritten in view of the discovery of the specific cause, and a brief discussion of the modern methods of diagnosis has been added. The chapter on "Typhoid" has been revised to include the recent studies on vaccination, and the discussion of "Hog Cholera" has been considerably modified because of the question which has been raised as to the specificity of the organism.

The book is well bound, and the text is clearly printed upon good paper, and well illustrated. The style is simple, and easily read. There is a complete bibliographic index, and the general index is well arranged. The volume is one which must appeal to the student of pathogenic bacteriology, and the carefully compiled bibliography renders it of considerable value as a book of reference.

E. C. D.

The Test-Diet in Intestinal Diseases. By Prof. Adolf Schmidt. Authorized Translation by Charles D. Aaron, M. D. Publishers, F. A. Davis Co. 1909.

It is remarkable that internists who do not fail to examine the urine and even the gastric contents of their gastro-intestinal cases, frequently overlook the diagnostic examination of stools. This is due to the prudery of the public and the repulsiveness of the examination. Both are easily overcome. The methods of examination have of late years been greatly simplified, thanks to the persevering researches of Adolf Schmidt, and this book embodies and details the methods (familiar to all who have followed his publications in the German literature) at present commonly used.

The test-diet is a simple one. It gives one a standard stool, for comparisons made between feces of patients on varied diets would greatly complicate the subject.

The examination of the stool macroscopically both before and after grinding it up in a mortar, is carefully detailed. In my hands in an experience acquired during the last eighteen months, the latter is

perhaps the most valuable part of the entire method.

The microscopic examinations of the stool, first unstained, then heated on a slide with acetic acid, and a third stained with Gram's solution, likewise give many points of diagnostic import.

The other procedures detailed include the sublimate test for hydrobilirubin (adding few glts. of solution HgCl to ground up feces) the test for dissolved albumen (seldom necessary), Weber's test for blood, and the so-called incubator test. The latter is simply a series of small bottles, in one of which 5 gms. of stool is mixed with water, and so arranged that gas, forming in it, will force water from second bottle into the empty third one, the displaced amount of water denoting the extent of fermentation of undigested carbohydrates.

Many valuable therapeutic suggestions are given and reading the book will certainly prove instructive to all.

The work is very well illustrated and it is hoped that such typographical errors as occur on page 24 will be eliminated in future editions.

R. B.

DR. HODGHEAD NOT CONNECTED WITH THE P. AND S.

To the Editor of the State Journal: Relative to a criticism of myself in the February Journal, please announce, by publishing this letter, that nearly two years ago I resigned as Dean of the College of Physicians and Surgeons, and a few months later resigned as Trustee. I was therefore in no manner a party to the withdrawal of the suit referred to, and until your editorial was published, I did not know that the suit had been dismissed.

Very truly,

D. A. HODGHEAD.

NEW JOURNAL.

Those of our readers who are interested in the various forms of Physiologic Therapy (including Hydrotherapy, Electrotherapy, Massage, Hyperemia, etc.) will be glad to know that it is proposed shortly to inaugurate a new journal devoted solely to the delineation of the progress made in these lines of therapeutic endeavor. The American Journal of Physiologic Therapeutics will be published bi-monthly and the subscription price will be \$1.00 a year. The names and addresses of all interested physicians should be sent in at once, and those desirous of subscribing may enclose their remittance when writing. The American Journal of Physiologic Therapeutics, 72 Madison street, Chicago.

NEW AND NON-OFFICIAL REMEDIES.

Since January 1, 1910, the following articles have been accepted by the Council:

Accepted for N. N. R.—

Filmaron (Merck & Co.).

Filmaron Oil (Merck & Co.).

Thiol Liquid (Riedel & Co.).

Thiol Powder (Riedel & Co.).

Accepted for N. N. R. Appendix—

Maltine with Cod Liver Oil (Maltine Co.).

Maltine with Cascara Sagrada (Maltine Co.).

Maltine with Creosote (Maltine Co.).

Maltine Ferrated (Maltine Co.).

Maltine with Hypophosphites (Maltine Co.).

Maltine with Wine of Pepsin (Maltine Co.).

Malto Yerbine (Maltine Co.).

Maltine with Olive Oil and Hypophosphites (Maltine Co.).

Maltine with Phosphate of Iron, Quinia and Strychnia (Maltine Co.).

COST OF CITY GOVERNMENTS AND HEALTH DEPARTMENTS.

Washington, D. C., March 6, 1910.

In the United States Census Bureau's special annual report for 1907 on the the statistics of 158 of the largest cities, which is in press, it is shown that the per capita running expenses of the government in 148 of the largest cities increased from \$13.36 in 1902 to \$15.91 in 1907. There has been a progressive increase in nearly every department of the government. The per capita increase in the fire department was from \$1.33 to \$1.61; in the health department from \$0.22 to \$0.29; in charities and corrections from \$0.86 to \$1.06; and in education from \$3.85 to \$4.70.

Of special interest in a comparison of the general expenses of the cities are payments for the maintenance of the health department. In several cities the state maintains a dispensary or health bureau, but in most cities, nearly all the expense of the care of the public health is borne by the city alone. New York paid \$1,691,560 for the maintenance of its health department, or more than six times as much as any other city. The other cities paying more than \$200,000, for the maintenance of this department were Chicago (\$261,614), Philadelphia (\$253,709), and San Francisco (\$240,198).

Cities of over 300,000 population with notably small payments for their health department were Detroit (\$32,987), Milwaukee (\$40,417), and Buffalo (\$44,358). In smaller cities the large expenditures of Los Angeles and Oakland, California, reflect payments for the suppression of the Bubonic plague.

The payments for schools, libraries and art galleries of the cities considered were 29.6 per cent of the total running expenses of the government. Of the cities of over 300,000 population, the percentage spent for education was highest in Cleveland, Ohio (33.1); in cities of from 100,000 to 300,000 population the highest percentages were in Scranton, Pa., (51.5), and Seattle, Wash., (46.2); in cities of from 50,000 to 100,000 population, in Salt Lake City (48.2), and Des Moines, Iowa (46.3), and in the smaller cities, in Topeka, Kans., (54.5), and Lincoln, Neb., (53.5). Payments for outlays are not included in the above computations.

New Members.

Hamilton, Jo, Fruitvale, Cal.

Daggett, E. H., Oakland.

Wells, W. B., Riverside, Cal.

Gregory, Lester C., Fort Bragg, Cal.

Van Allen, Louis K., Ukiah, Cal.

Devine, C. T., Berkeley, Cal.

Arnold, C. S., Berkeley.

Howard, Burt Foster, Alta, Cal.

Mulligan, A. P., Bowman, Cal.

Shoemaker, David, Truckee, Cal.

McDonnell, C. H., Sacramento, Cal.

Buffum, E. H., Fair Oaks, Cal.

Ward, J. M., Oak Park, Cal.

Cline, John W., Santa Rosa, Cal.

Potts, R. D., Oxnard, Cal.

Resigned.

Baldwin, W. A., Sacramento, Cal.

Briggs, A. E., Sacramento, Cal.

Bond, Jas. L., Ukiah, Cal.

Cushman, R. A., Covelo, Cal.

Deaths.

Morgan, P. Brett, Berkeley, Cal.

West, R. W., Robinson Ferry, Cal.

Gordon, Wm. A., Mountain View, Cal.

Chamberlain, F. O. Former address unknown; died in San Francisco.

Woodruff, W. L., Long Beach, Cal.

Day, Edward W., Vacaville, Cal.

Bates, Homer O., Long Beach.